Girl Power! Welcome to Technology Goddesses camp, where your future IT workforce is learning to love what computers can do. PAGE 32

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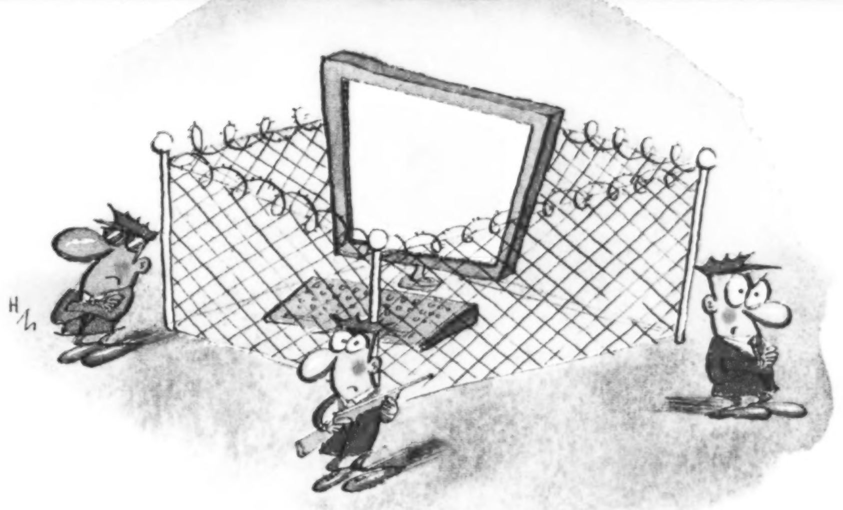

HOW SECURE IS SECURE ENOUGH?

Five steps to learn whether you're too lax, too obsessive or on the right track.

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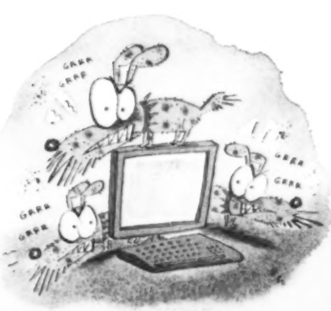

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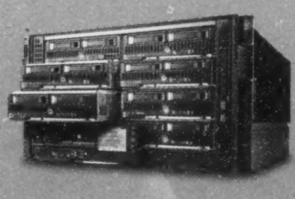

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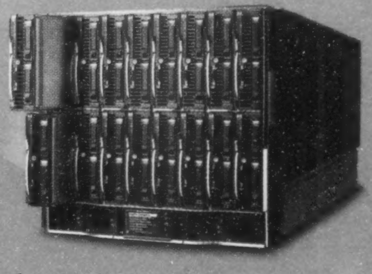

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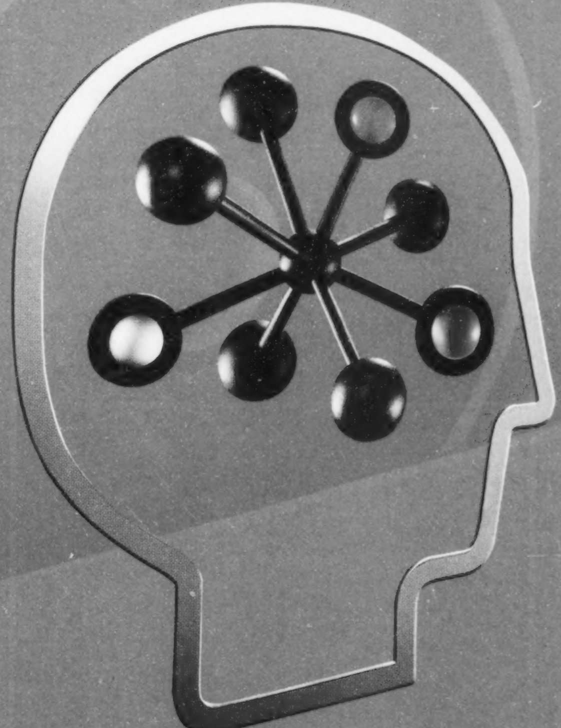

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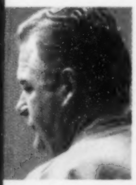

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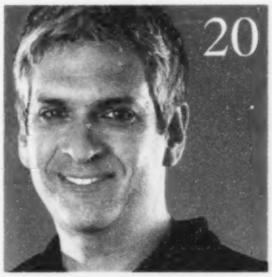

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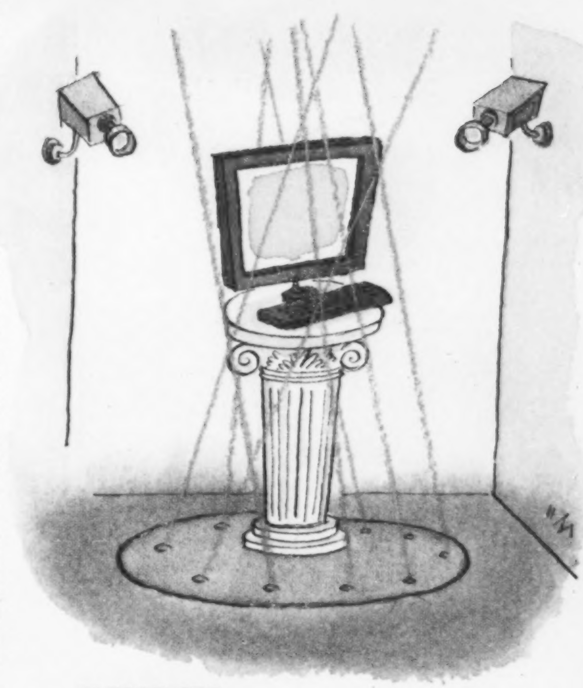

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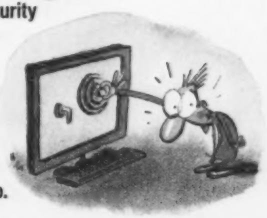

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ALTERNATIVE THINKING ABOUT ASSURANCE:

Nobody ever got fired for buying a dependable server.

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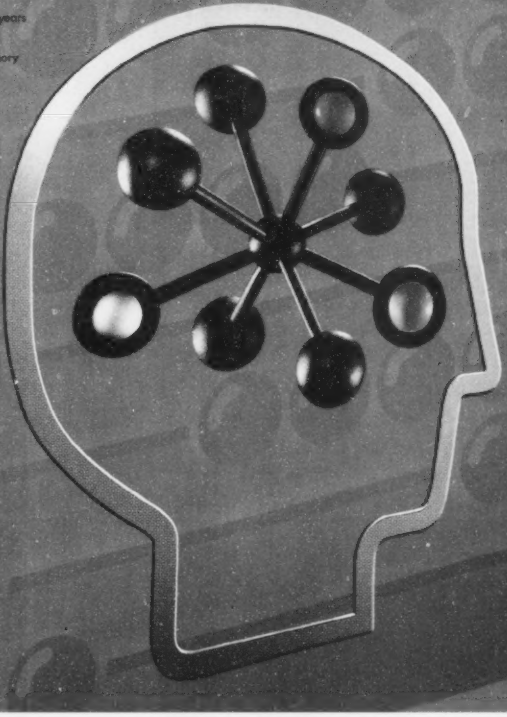

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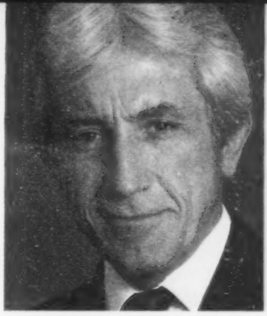
*Based on IDC, Worldwide Quarterly Server Tracker, February 2008. In Calendar 4Q '07, IDC reported worldwide HP ProLiant server shipments at 681,445 units, well ahead of Dell PowerEdge's 499,715 units at #2. IDC also reported ProLiant factory revenue at $2,743 million vs. $1,580 million for Dell's PowerEdge family. Prices shown are HP Direct prices; reseller and retail prices may vary. Prices shown are subject to change and do not include applicable state and local taxes or shipping to recipient's address. Offers cannot be combined with any other offer or discount and are good while supplies last. All featured offers available in U.S. only. Savings based on HP published list prices of configure-to-order equivalent ($3125 - $850 instant savings = SmartBuy price of $2,275). 1. Financing available through Hewlett-Packard Financial Services Company (HPFS) to qualified commercial customers in the U.S. and subject to credit approval and execution of standard HPFS documentation. Prices shown are based on a lease of 48 months in terms with a fair market value purchase option at the end of the term. Rates based on an original transaction size between $3,000 and $25,000. Other rates apply for other terms and transaction sizes. Financing available on transactions greater than $349 through September 30, 2008. HPFS reserves the right to change or cancel these programs at any time without notice. AMD, the AMD Arrow logo, AMD Opteron, and combinations thereof are trademarks of Advanced Micro Devices, Inc. ©2008 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

EDITOR'S NOTE

Don Tennant



Who's Anticompetitive?

THE MORE I think about it, the more annoyed I get. There's just something fundamentally wrong when a U.S. company isn't allowed to compete in a market where the rest of the world is free to benefit from commercial engagement and entrepreneurism.

The market I'm referring to is Cuba. I really hadn't given the issue much thought prior to my recent interview with Allison Watson, Microsoft's corporate vice president in charge of its worldwide partner group. I asked Watson whether she was aware of any Microsoft partners that have done business with Cuba, Iran or North Korea.

"I'm not aware whether there are or aren't," she replied. "We do have local subsidiaries that operate in markets around the world. For example, I have a team that operates in Latin America — they would probably know if there is anything going on."

Now, one could argue that the head of Microsoft's global partner operations should be more up to speed on the status of gray-market activity involving the company's products, at least with respect to its business partners. But you have to give Watson credit for her candor in acknowledging that she didn't know.

The second part of Watson's response is what really intrigued me, though. "Frankly, from a Cuba perspective, *Cuba's* not a bad word to anyone outside of the United States," she said.

She's right, of course. The U.S. pretty much stands alone in its refusal to engage Cuba and enable the citizens of both countries to benefit from investment there. And that refusal hurts no one more than U.S. companies, including Microsoft.

No doubt, Microsoft products have been widely used in Cuba for years. And, no doubt, the great majority of those products are pirated. Microsoft has been able to effectively address the piracy problem in countries like China, where our government allows it to operate despite our political differences. As a result, software piracy in China is less outrageous than it has been in the past, and Microsoft has reaped the financial benefits of that.

The difference is that Microsoft has a subsidiary in Caracas. In Cuba, it's not even allowed to compete.

But when you're not allowed to commercially engage a country, you lose.

At a technology conference in February last year, the Cuban government declared its intention to rid itself of Microsoft software in favor of open-source alternatives. According to an Associated Press report, Communications Minister Ramiro Valdes, who opened the conference, suggested that Microsoft was cooperating with U.S. military and intelligence authorities, and he proclaimed that IT is a battlefield on which Cuba is fighting imperialism.

That event was reminiscent of a March 2006 technology fair held by Venezuela's science and technology ministry to promote the use of open-source software instead of Microsoft products. Anti-American rhetoric is at least as harsh in Venezuela as it is in Cuba, and it has been since 2004, when Venezuelan President Hugo Chavez decreed that all public institutions there must adopt open-source strategies. The difference is that Microsoft has a subsidiary in Caracas. In Cuba, it's not even allowed to compete.

I posted an earlier version of this column in my blog, and it drew an insightful comment from a reader who noted that the world has changed.

"When we left Vietnam, we thought it was lost forever. Now it is an ally. Later, Libya was a threat, and with the same leader as back then, they are now considered our ally," the reader wrote. "Yet after four and a half decades, our obstinacy has prevented us from [engaging] one of our closest neighbors and has prevented our companies from benefiting from the changes that have occurred there. We are truly the last bastion that has failed to recognize that the ghost of Khrushchev is gone."

He's right. And that's not all. There's a certain irony in the U.S. government thwarting competition at the expense of companies such as Microsoft. Looking at it that way makes the position that the government has famously taken against Microsoft seem awfully hypocritical. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.

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■ LETTERS

Middle Managers Hate To Deliver Bad News

I found Don Tennant's July 14 Editor's Note, "Insight and Denial," interesting and accurate, but I'd like to make an observation.

I used to work at a telephone company. It seemed to me that the workers were more than happy to ensure that problems, delays and other challenges were relayed up the line. Middle managers were another matter.

At one meeting, I and another subject-matter expert expressed grave concern about a key component that was missing from the overall architecture and design on a development technology the company was exploring. In fact, without that key component, the entire business model around the initiative was unachievable.

The initiative was a pet project of the director and one of his key colleagues. So, at the meeting, our boss told us that there was no way he was going to deliver bad news to those two. And he didn't! Needless to say, the project never succeeded, a tremendous amount of money was wasted, and the stated desired deliverables never materialized.

I'd like to think the troops want to be honest, but the people in the middle often act as the filters that change red warnings to a more rosy hue.

■ **John R. Dueckman**,
Langley, British Columbia

The Importance Of Camaraderie

I loved Don Tennant's Editor's Note "Taming the Beast" [June 30]. I couldn't agree more. For over five years, I have worked in a small rural health system, in total isolation as the only IT person on staff.

I left a larger system with a mature IT department to come here, and as I reflect on that experience, it is the camaraderie that I miss the most.

If I am able to grow my present IT department to that size someday, I will make it my highest priority to promote the type of environment that has been developed by the companies that Tennant mentioned.

■ **Andy Caldwell**, *IS director,*
George Regional Health System,
Lucedale, Miss.,
andy@georgeregional.com

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When Security Staffers Fail Up

Think your security staffers are trustworthy? Competent? Knowledgeable? Ask a security professional for horror stories, and you might think twice. Here are some suggestions on coping with the painfully underqualified or chronically overwhelmed.

Transforming the Data Center From Hell

Extreme heat, a dangerous server layout, nonexistent service and other major problems were ultimately resolved by these three IT managers focused on change.

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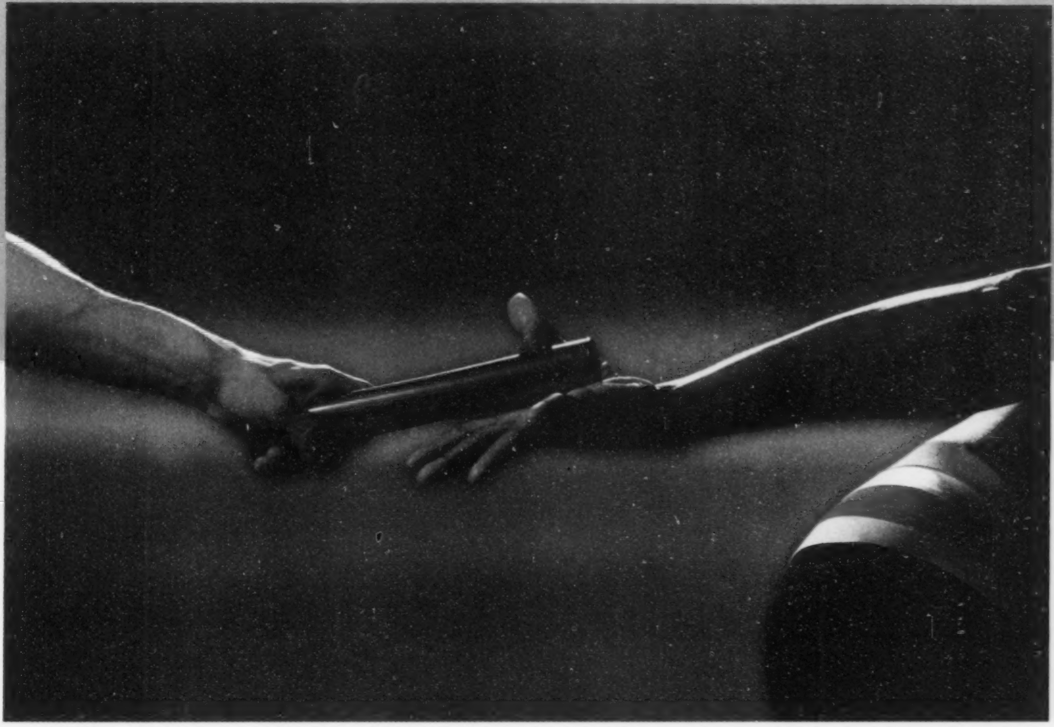

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News Digest

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THE WEEK AHEAD

MONDAY: Microsoft researchers and those from academic institutions and government agencies gather for an annual meeting in Redmond, Wash., on technology R&D issues.

MONDAY: The Usenix Security '08 symposium opens in San Jose with a two-day IT security training program, followed by a three-day technical conference.

FRIDAY: Sun Microsystems is scheduled to report the results for its fiscal fourth quarter.

STORAGE

Brocade Takes Aim at Cisco with $3B Foundry Deal

STORAGE networking company Brocade Communications Systems Inc. last week agreed to acquire Foundry Networks Inc., a maker of enterprise LAN technology, for about $3 billion in cash and stock.

The deal, expected to close in the fourth quarter, would combine a specialist in enterprise Ethernet LANs and a maker of Fibre Channel storage-area network switches for data centers, two technologies that are headed toward a merger themselves.

Brocade has been a backer of the proposed Fibre Channel over Ethernet (FCoE) standard. The addition of Ethernet technology from Santa Clara, Calif.-based Foundry would make it a stronger alternative to market leader Cisco Systems Inc., the other major backer of FCoE technology, according to analysts.

For example, Zeus Kerravala, an analyst at Yankee Group Research Inc., said that Brocade's purchase of Foundry gives it the Ethernet technology it needs to become the second-most-powerful vendor of FCoE technology.

So far, he said, Cisco has been the only company with both the vision and technology to create a FCoE unified fabric. Brocade, on the other hand, has had the FCoE vision but not the Ethernet goods, Kerravala said.

"If the concept of unified [Fibre Channel and Ethernet] fabric really does come true," he added, "there are really only two vendors [now]."

Greg Schulz, an analyst at StorageIO Group in Stillwater, Minn., agreed, noting that the combined company would be the only alternative to Cisco for networking tools that reach from the Internet to the data center.

The combined company will be led by Brocade CEO Michael Klayko and use only the Brocade brand, executives said on a conference call with reporters following the announcement.

The companies haven't yet defined a role for Bobby Johnson, founder, president and CEO of Foundry, but the 30-year networking veteran said he will stay on board.

"I'm committed to making this happen, and I'm committed to helping Mike and both teams," Johnson said.

Executives said that the deal is not expected to result in layoffs of personnel from either company.

"Our business models and technologies are extremely synergistic," said Marty Lans, senior director of product management for data center infrastructure at San Jose-based Brocade.

Twelve-year-old Foundry has about 1,100 employees.

— Stephen Lawson, IDG News Service

HOW THEY STACK UP	Brocade Communications Systems Inc.	Foundry Networks Inc.
Founded	1995	1996
Headquarters	San Jose	Santa Clara, Calif.
Fiscal 2007 sales	$1.2B (through Oct. 27)	$607.2M (through Dec. 31)
Business	Fibre Channel SAN switches	Ethernet LANs

HARDWARE

Intel Slashes Chip Prices

INTEL CORP. last week dropped the price of seven processors by up to 31%.

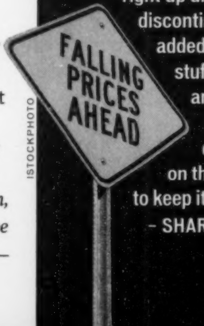
Intel said it was lowering the price of the 3.16-GHz Core 2 Duo E8500 by 31% to $183. Intel cut the prices of the Core 2 Duo 2.53-GHz E2700 chip and the 3-GHz E8400 model by 15% and 11%, to $113 and $163, respectively. The price tag for the company's Core 2 Q6600 2.4-GHz quad processor was reduced from $224 to $193, or 14%. In addition, the prices of three Xeon server chips were cut by 11% to 12%, Intel said.

The latest reductions come just three months after the vendor slashed the prices on about a dozen other processors by up to 50%.

Dan Olds, an analyst at Gabriel Consulting Group Inc., said Intel is likely cutting prices to reduce inventory.

"Intel wants to keep [these chips] moving out the door right up until they're discontinued," he added. "The new stuff is faster and better, so you have to cut prices on the old stuff to keep it moving."

– SHARON GAUDIN



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SERVICES

SAP Opts to Shutter TommorrowNow

SAP AG last week announced plans to close its TomorrowNow Inc. subsidiary later this year, after failing to find a buyer for the support operation.

TommorrowNow has been entangled in legal troubles since March 2007, when Oracle Corp. filed a lawsuit contending that the SAP unit had illegally downloaded support data from Oracle's Web site. Four months later, SAP admitted to making "inappropriate downloads" of content from Oracle databases, but the lawsuit was not dropped.

An SAP spokesman declined to say whether the lawsuit had prompted the company to shut down the unit, but he acknowledged that the legal issues were complicating efforts to find a buyer for it. SAP had disclosed last November that it was looking to sell TomorrowNow. The announcement coincided with the resignation of TomorrowNow's top executives.

"It would have been an extremely complex transaction for the seller and buyer because of [the lawsuit]. Therefore, we decided to close down operations," the spokesman said.

Attorneys representing Oracle in the lawsuit against SAP estimated last month that damages in the case could surpass $1 billion. A trial is scheduled to begin in February 2010.

SAP said it plans to help TomorrowNow's 225 customers find new support vendors before it formally closes the subsidiary on Oct. 31. The spokesman said SAP will recommend multiple options, "including choosing Oracle support."

TomorrowNow provides maintenance and support for Oracle's applications, including PeopleSoft, Siebel and J.D. Edwards products. SAP acquired the firm in 2005.

Ray Wang, an analyst at Forrester Research Inc., said that while the Oracle lawsuit was likely a key reason for closing TomorrowNow, SAP also may have underestimated the "uncharted territory" of running a third-party support operation. "I think they thought the environment around TomorrowNow would be different," he said. "[It was] a lesson learned in terms of acquisition and business model."

Despite the problems, SAP could have made a success of TommorrowNow, given the demand for third-party support, Wang added.

— Brian Fonseca, with Peter Sayer of the IDG News Service

TIMELINE

MARCH 22, 2007: Oracle sues SAP and its subsidiary, TomorrowNow, for downloading support materials from its Web site.

JULY 2, 2007: SAP admits that TommorowNow personnel made "inappropriate downloads" from the Oracle site.

NOV. 19, 2007: CEO Andrew Nelson and several other TomorrowNow senior managers abruptly resign from the firm.

JULY 21, 2008: SAP announces it will shut down TomorrowNow by Oct. 31.

Short Takes

A federal judge in Seattle sentenced Robert Soloway, known as the "spam king," to 47 months in prison for sending massive volumes of junk e-mail. Prosecutors say Soloway earned more than $700,000 in three years from the spamming activities.

Ovidiu-Ionut Nicola-Roman, 22, of Romania, pleaded guilty to a federal fraud charge for setting up fake Web sites to steal credit card data. He faces up to five years in prison and a $250,000 fine.

Microsoft Corp. has agreed to buy privately held Datallegro Inc., a maker of data warehouse appliances, for an undisclosed sum.

EDITOR'S NOTE

Computerworld last week won 15 editorial awards, including 2008 Web Site of the Year, from the American Society of Business Publication Editors. *Computerworld* also won gold awards for Web features, government coverage, opinion columns, infographics and cover at the ASBPE's editorial confab in Kansas City, Mo.

BUSINESS INTELLIGENCE

TSA Leans on BI to Save $100M Over Two Years

THE FEDERAL Transportation Security Administration (TSA) last week said it estimates that its use of business intelligence software to manage its workers will have saved it about $100 million over a two-year period ending this fall.

The agency's Performance Information Management System (PIMS), which is based on BI reporting and analytics tools from MicroStrategy Inc., allowed the TSA to streamline operations and significantly cut worker overtime costs between October 2006 and October 2008, a spokesman said.

The TSA installed the system in November 2004. PIMS collects, analyzes and reports passenger and baggage-screening data and provides operational performance metrics to managers. PIMS also analyzes payroll data and TSA staff utilization.

PHOTO COURTESY OF TSA

⮝ The TSA has significantly cut worker overtime costs using BI.

The agency said it uses the system to run 1 million reports annually for 12,000 internal users.

"The TSA is a metrics-based organization," the spokesman noted.

Wayne Eckerson, director of research and services at The Data Warehousing Institute, said the focus on metrics allows the TSA to avoid getting "hamstrung" because it doesn't rely on intuition to make decisions or have information stored in disparate spreadsheets, data marts and reports.

– HEATHER HAVENSTEIN

IBM

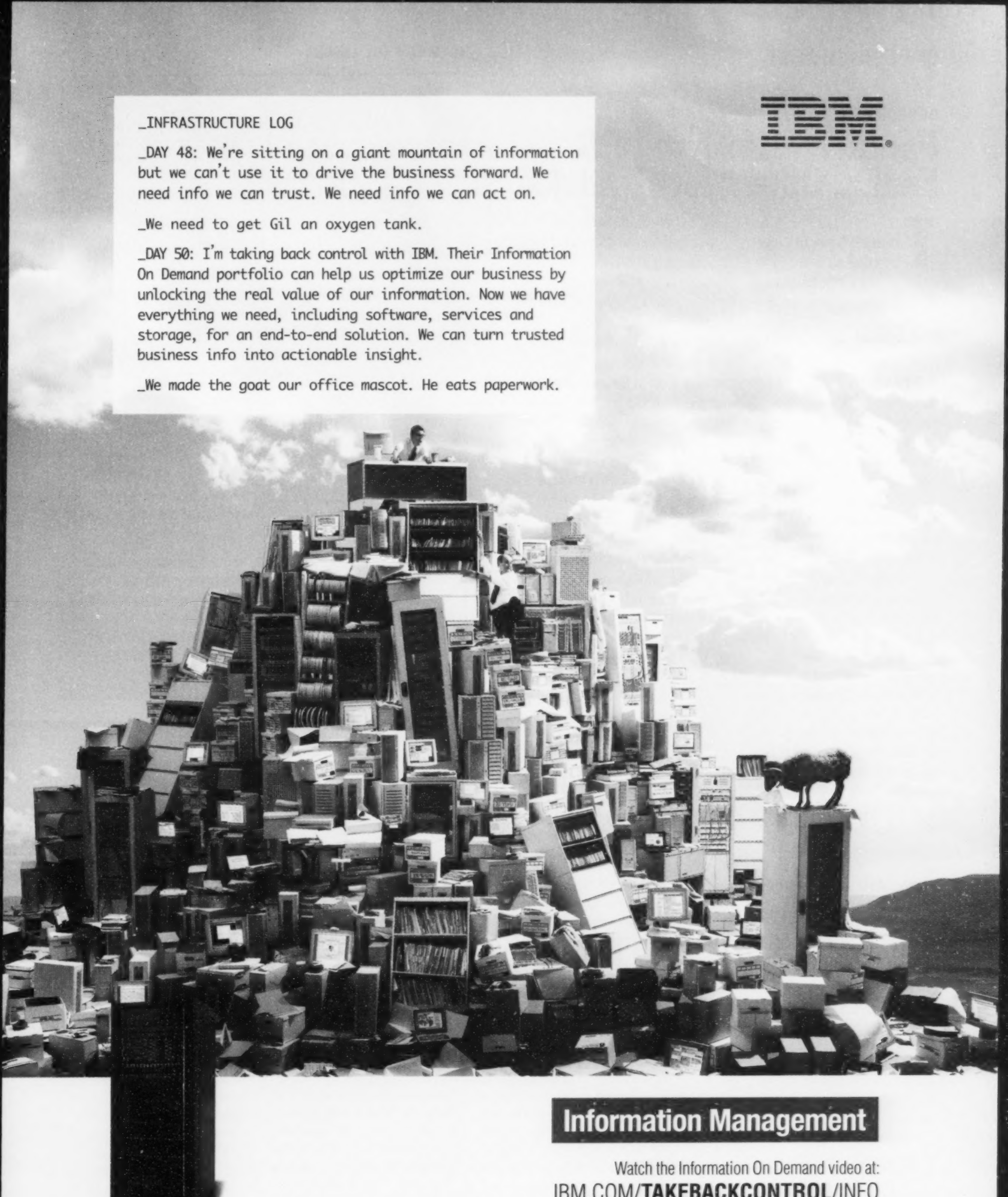
_INFRASTRUCTURE LOG

_DAY 48: We're sitting on a giant mountain of information but we can't use it to drive the business forward. We need info we can trust. We need info we can act on.

_We need to get Gil an oxygen tank.

_DAY 50: I'm taking back control with IBM. Their Information On Demand portfolio can help us optimize our business by unlocking the real value of our information. Now we have everything we need, including software, services and storage, for an end-to-end solution. We can turn trusted business info into actionable insight.

_We made the goat our office mascot. He eats paperwork.



Information Management

Watch the Information On Demand video at:
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NEWS DIGEST

GOVERNMENT IT

Pentagon Looks to UPS, FedEx, Others for IT Advice

THE U.S. Defense Information Systems Agency (DISA) is turning to a wide range of companies to find new ways to support the Department of Defense and the branches of the U.S. armed services.

CIO John Garing sees cloud computing in DISA's future.

Agency officials have met with a variety of major companies — including Google, UPS, Amazon, Sabre and FedEx — over the past year to talk about how the companies use technology, said DISA CIO John Garing, a retired Air Force colonel.

So far, the meetings have convinced DISA, which provides contracted IT services and support to the U.S. military, that so-called cloud computing is "going to be the way [to go] — it has to be. We have to get to this standard environment that is provisionable and scalable," Garing said.

In fact, he said that DISA plans to soon deploy a system that's similar architecturally to Amazon.com Inc.'s Elastic Compute Cloud technology, a Web-based service that lets users quickly scale up their processing capabilities.

DISA's system, called the Rapid Access Computing Environment, or RACE, is slated for launch in October, the start of the federal government's fiscal year.

Garing said he was also impressed with Google Inc.'s process of moving strong new product ideas from the laboratory to beta testing to real users in just a few months.

DISA officials took a close look at systems created by Amazon and Sabre Holdings Corp.'s Travelocity.com unit that help IT prepare for the unexpected, he added.

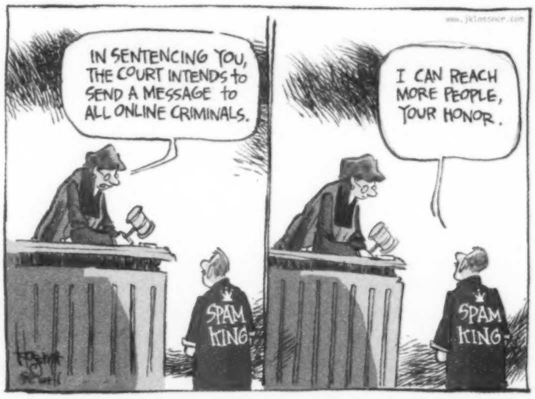
Ray Bjorklund, an analyst at consulting firm Federal Sources Inc. in McLean, Va., noted that the agency often has to compete with private-sector IT services firms for the military business. DISA's moves to enlist help from such technologically advanced companies will help it gain business in the long run, he said.

"DISA is very conscientious of its position as a service provider," Bjorklund added.

— Patrick Thibodeau

BETWEEN THE LINES

By John Klossner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SPAM KING
I CAN REACH MORE PEOPLE, YOUR HONOR.
SPAM KING

BENCHMARKS LAST WEEK

Kevin Johnson resigned as president of Microsoft Corp.'s platforms and services division to join Juniper Networks Inc. as CEO.

Yahoo Inc. has reached an agreement to end a proxy fight with investor Carl Icahn, who will withdraw his nominees for board seats and take a seat on the board after the annual stockholders' meeting Aug. 1.

TWO YEARS AGO: A glitch in the computer system connecting the Worldspan global distribution system and Northwest Airlines' airport computer systems delayed more than 200 flights.

Global Dispatches

Radar Hit by Faulty Network Card

DUBLIN – A faulty network card earlier this month caused a failure in the radar system at Dublin Airport that continues to cause some flight delays.

The Irish Aviation Authority said in a statement that Thales, the France-based supplier of the airport's air traffic management system, confirmed that the radar failure was caused by "an intermittent malfunctioning network card which consequently overcame the built-in system redundancy."

Thales officials were unavailable for comment.

Airport officials warned that flight delays could continue for several weeks as engineers install and test better system-monitoring tools.

Leo King,
Computerworld U.K.

E-health Research Gets $20M Boost

BRISBANE, Australia – The Australian e-Health Research Centre last week was awarded $20 million Australian ($19.1 million U.S.) from the federal and Queensland governments to fund operations through 2012.

The five-year-old operation, based at the University of Queensland's Centre for Clinical Research at the Royal Brisbane and Women's Hospital, is a joint venture of the Commonwealth Scientific and Industrial Research Organization and the Queensland government.

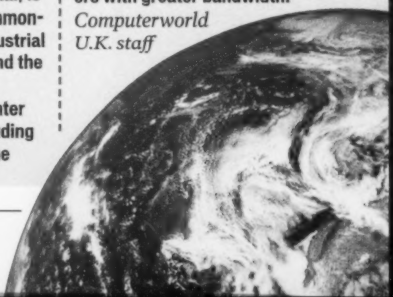
Researchers at the center are developing tools including training simulations, home monitoring systems for patients recovering from heart problems, and improved imaging techniques to facilitate early diagnosis of Alzheimer's disease.

Rodney Gedda,
Computerworld Australia

BRIEFLY NOTED

The Kent County Council in Maidstone, England, has awarded a £32 million ($64 million U.S.) contract to Unisys Corp. to create and manage a WAN to connect more than 1,000 sites. The Kent Public Service Network will connect schools, council offices, libraries and other public facilities, providing users with greater bandwidth.

Computerworld U.K. staff

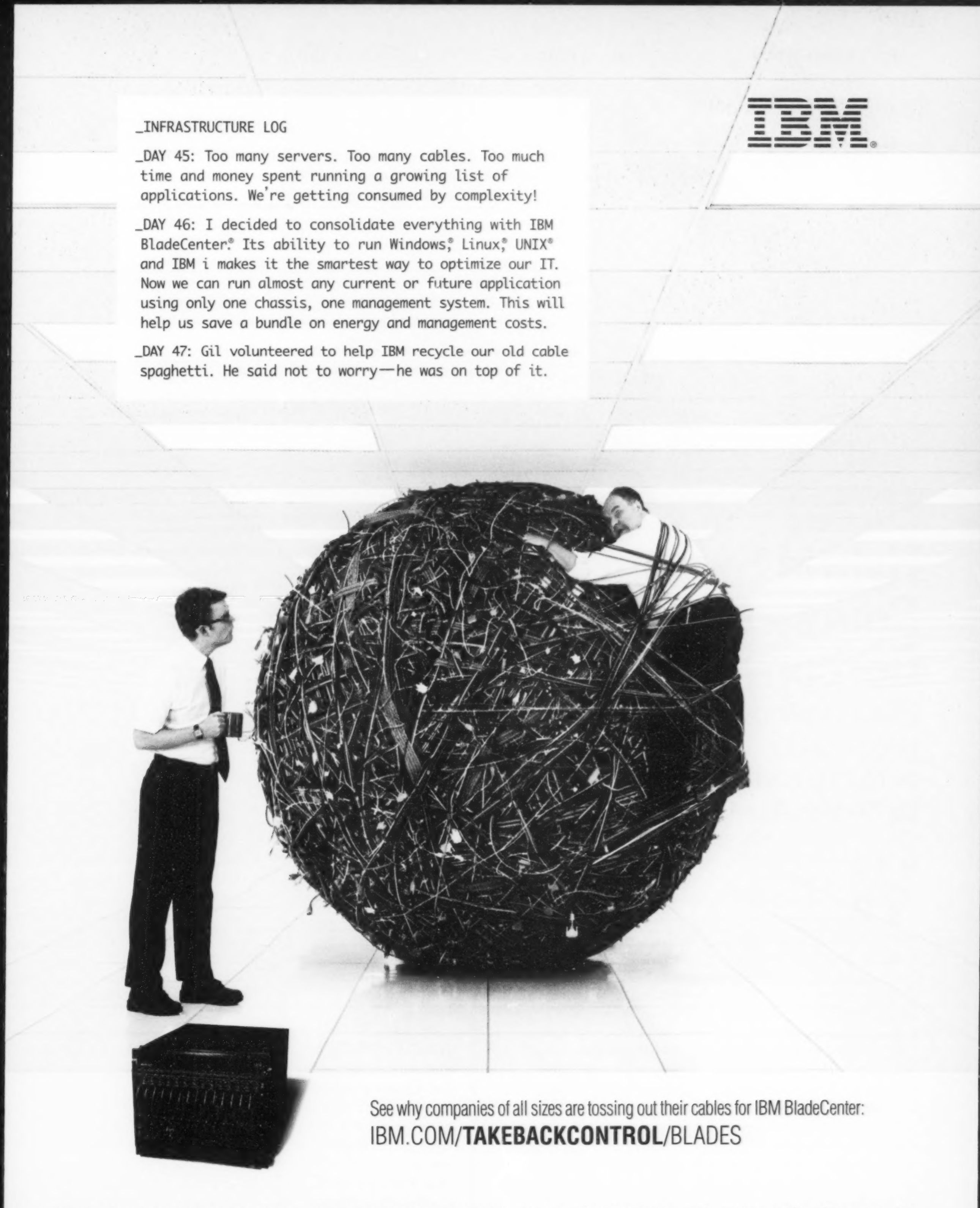


_INFRASTRUCTURE LOG

_DAY 45: Too many servers. Too many cables. Too much time and money spent running a growing list of applications. We're getting consumed by complexity!

_DAY 46: I decided to consolidate everything with IBM BladeCenter.® Its ability to run Windows,® Linux,® UNIX® and IBM i makes it the smartest way to optimize our IT. Now we can run almost any current or future application using only one chassis, one management system. This will help us save a bundle on energy and management costs.

_DAY 47: Gil volunteered to help IBM recycle our old cable spaghetti. He said not to worry—he was on top of it.



See why companies of all sizes are tossing out their cables for IBM BladeCenter:
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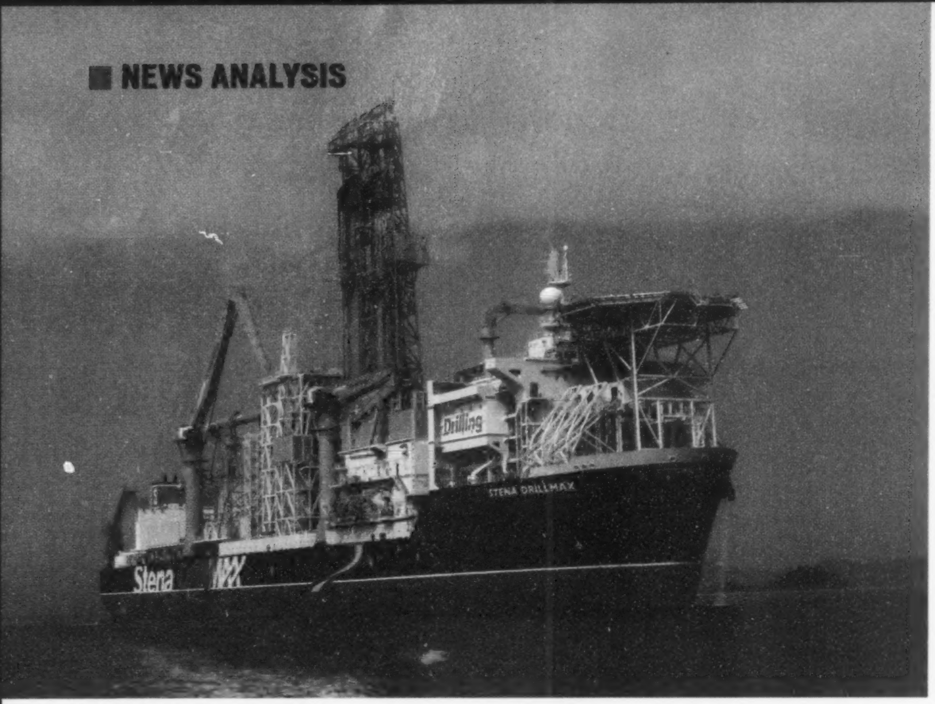


« Repsol YPF is using hybrid computing technology to map oil reserves in the Gulf of Mexico.

Hybrid Systems On Course to Speed Corporate Apps

Firms in some industries could use petaflop performance to perform complex calculations.

By Sharon Gaudin

WHEN YOU'RE dealing with nuclear weapons, figuring out problems and figuring them out fast is Job One. For scientists at Los Alamos National Laboratory, that means having the most computing power possible.

For about a year, the federal security research facility in Los Alamos, N.M., has used an IBM-built supercomputer, dubbed Roadrunner, whose peak performance is about 70 teraflops.

Today, that's not enough. So Los Alamos is getting ready to fire up a new incarnation of IBM's Roadrunner, a hybrid machine that will provide the scientists with a lot more power — 1.026 quadrillion calculations per second — once it's installed this fall.

The $200 million hybrid system still runs the AMD Opteron chips of the original Roadrunner but adds Cell chips that were first designed for the PlayStation 3 gaming console. In tests conducted this spring, the new supercomputer became the first machine to break the petaflop barrier.

Much of the performance boost came from the Cell chip, developed jointly by IBM, Toshiba Corp. and Sony Computer Entertainment Inc., to handle high-performance computations for video games. That also makes it will suited to handle other complex calculations, and "bitwise" operations like generating random numbers.

The well-publicized tests have attracted the attention of IT managers in a variety of industries who increasingly need significant performance boosts without the corresponding rise in energy demands.

The companies that are generally out in front of new technologies — financial services firms, pharmaceutical manufacturers and petroleum giants — are expected to be the first to take on hybrid computing commercially.

Definition

HYBRID COMPUTER: A computer running more than one type of processor. IBM's Roadrunner hybrid, for instance, runs a combination of AMD Opterons and IBM Cell chips, which accelerate the processing of complex calculations.

The hardware is very costly, and significant work is often required to adapt software to the technology, leaving early adoption to large firms with big budgets to take on projects that push the envelope.

At this point, a major retailer probably wouldn't want to use a large hybrid system to run a network backbone. But for, say, a Wall Street company that needs to gauge risk and price derivatives, a hybrid-enhanced performance boost may be just what the CIO ordered.

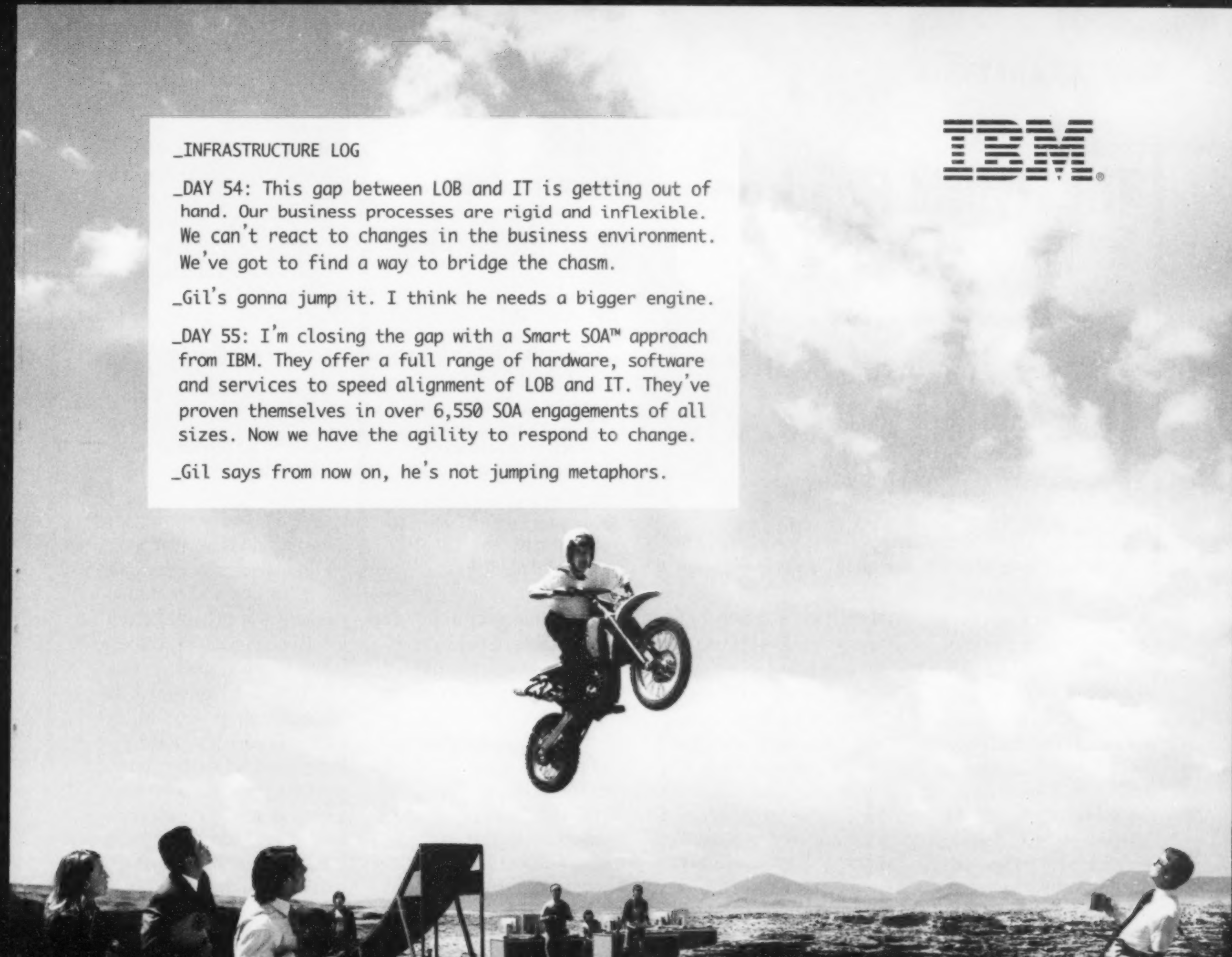
Steve Conway, an analyst at research firm IDC, noted that some companies have turned to multicore processors for added performance but have found that applications and calculations are running more slowly than they did using single-core chips.

"[Performance issues] are causing a real shift in the capability to get the work done," he said. "It's no secret that microprocessor speeds stalled out a few years ago. [Computer makers] need to do something, [so] they're adding accelerators."

Dan Olds, an analyst at Gabriel Consulting Group Inc. in Beaverton, Ore., predicted that 40% of Fortune 1,000 companies will be using large hybrid computers within five years.

Repsol YPF SA is now working with IBM to build a supercomputer that will help it more clearly image oil reserves buried 30,000 feet beneath the surface of the Gulf of Mexico, said Francisco

Continued on page 14



_INFRASTRUCTURE LOG

_DAY 54: This gap between LOB and IT is getting out of hand. Our business processes are rigid and inflexible. We can't react to changes in the business environment. We've got to find a way to bridge the chasm.

_Gil's gonna jump it. I think he needs a bigger engine.

_DAY 55: I'm closing the gap with a Smart SOA™ approach from IBM. They offer a full range of hardware, software and services to speed alignment of LOB and IT. They've proven themselves in over 6,550 SOA engagements of all sizes. Now we have the agility to respond to change.

_Gil says from now on, he's not jumping metaphors.

IBM®

WebSphere

Watch the Smart SOA demo at:
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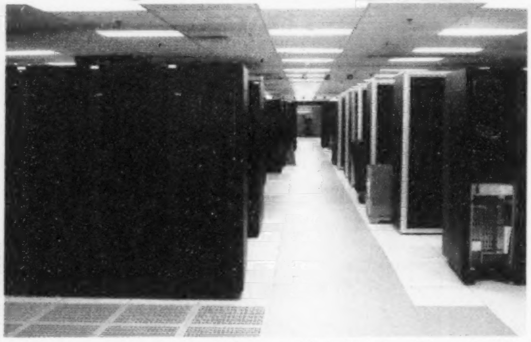
The Hybrid Roadrunner



⮝ The Roadrunner hybrid was developed by IBM in Poughkeepsie, N.Y.

PROCESSORS: 6,948 dual-core Opterons on IBM LS21 blades, and 12,960 Cell processors on IBM QS22 blades

SOFTWARE: Linux

MEMORY: 80TB

RACKS: 296 IBM BladeCenter H racks

ENERGY CONSUMPTION: 3.9 megawatts of power (enough to power 39,000 100-watt light bulbs)

SIZE: It takes up 6,000 square feet, uses 57 miles of fiber-optic cable and weighs 500,000 lb.

Continued from page 12

Ortigosa, director of geophysics at the Madrid-based oil and gas company.

The hybrid system will run a combination of IBM's PowerPC processor and PowerXCell 8i chip, a souped-up version of the Cell processor, Ortigosa said. Slated to be up and running early this fall, the system is expected to have a peak performance of 120 teraflops, which likely would make it one of the top 10 most powerful supercomputers in the world.

"The benefit for the business is significant," Ortigosa said. "The oil business is a business of managing risks. It is very difficult to see the Earth's interior. The clearer the picture, the more accurate the risks can be estimated and the costs reduced."

Analysts note that hybrid computing has slowly to move beyond the supercomputer level to the server level and even to clients, making the technology more attractive to corporate users.

Companies such as Nvidia Corp. and Advanced Micro Devices Inc. are starting to sell graphics processing units, or GPUs, as low-cost accelerators to be combined with general-purpose chips for commercial applications. That effort is "in its infancy," but sales for that purpose will likely pick up in the coming months, Olds said.

On the client side, Toshiba just this month started shipping its first hybrid laptops — the Qosmio G55 line — which run a Cell chip and an Intel Core 2 Duo processor and list for under $2,000. Toshiba has dubbed its version of the Cell chip the Toshiba Quad Core HD processor.

"We've had hybrid computing for some time," noted Jack Dongarra, a professor at the University of Tennessee and a co-creator of the biannual Top500 list of supercomputers. "But there will be a shift [in its use]. The next wave is coming. They're being exposed to more people. The graphics boards are cheap and provide a significant number-crunching advantage. "Whenever you have those two things going for you, it moves interest," he added.

And chip makers are starting to develop new hybrid technologies to take advantage of IT interest.

Intel Corp., for instance, has gotten as far as developing prototypes of hybrid chips — with two different kinds of processors on one chip.

Jerry Bautista, director of technology management in Intel's microprocessor research lab, said engineers there are working on putting a CPU and an accelerator in the form of, say, an encryption or decryption engine on the same chip.

He added that the market will decide how quickly Intel pushes ahead with the complex project.

AMD, too, is building a single chip containing both a processor and an accelerator. Patricia Harrell, director of stream computing at AMD, noted that its engineers could come up with Opteron and graphics processors on the same chip, or multicores and an accelerator on a single chip.

"We will be talking about mainstream developers taking advantage of a baseline capability in desktop and consumer systems" in five to 10 years, Harrell said. "It will be pervasive."

She said that AMD will likely ship the first such product in late 2009.

Jim McGregor, an analyst at Scottsdale, Ariz.-based In-Stat, warned that despite the benefits of the technology for some commercial applications, such implementations could be rocky early on.

"It can be an IT nightmare," he said. "This isn't [yet] something for the general enterprise. This is for highly specialized applications, no matter how you look at it. You've got to be willing to pay."

One big engineering challenge, said John Morrison, high-performance computing division leader at Los Alamos, is tweaking the software so it can run on hybrid machines.

To take advantage of an accelerator, programmers have to rewrite existing applications so they send appropriate data to the accelerator. The developers must also add code to the accelerator that tells it what to do with the data.

Vendors such as Nvidia, AMD and IBM are selling specialized tools designed to help make this reprogramming challenge a bit easier, but it's still a daunting task.

"It takes some innovation and understanding of what the algorithms are and how the data flow is going," said Morrison, who noted that of everyone on his IT team, the programmers are doing the heaviest lifting in the effort to bring the hybrid Roadrunner online.

"You have to restructure your code to do this. Each application has its own strategy for what work will be handed off to the [accelerator]. A portion of each application has to be rewritten," Morrison explained. "It's more of a challenge for our programmers than [for] our IT people." ■

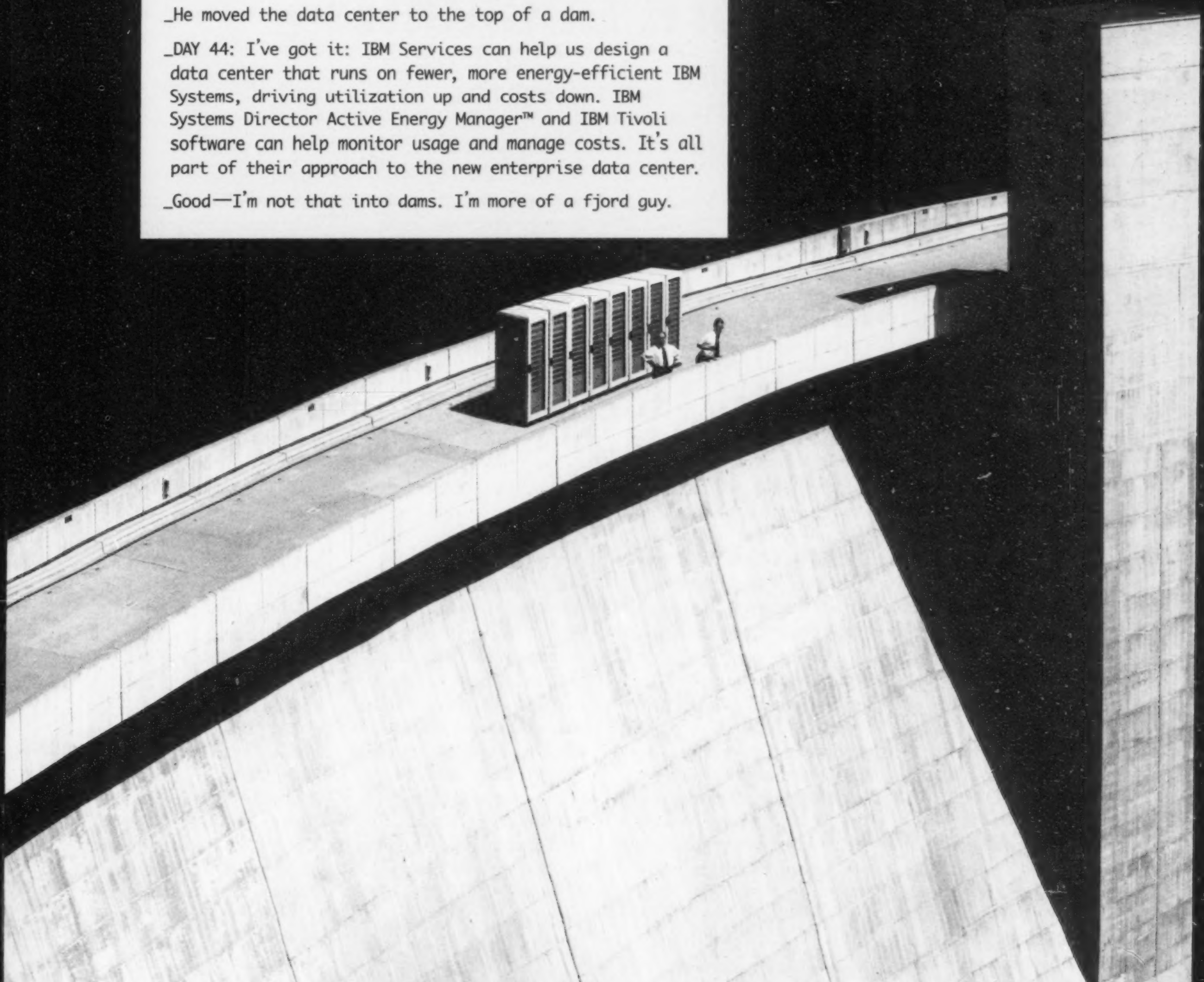
_INFRASTRUCTURE LOG

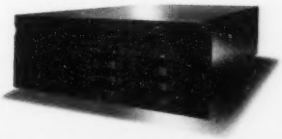
_DAY 41: Our processing needs and energy bills keep growing! We're spending so much just powering and cooling our machines. Gil knows where we can generate more power.

_He moved the data center to the top of a dam.

_DAY 44: I've got it: IBM Services can help us design a data center that runs on fewer, more energy-efficient IBM Systems, driving utilization up and costs down. IBM Systems Director Active Energy Manager™ and IBM Tivoli software can help monitor usage and manage costs. It's all part of their approach to the new enterprise data center.

_Good—I'm not that into dams. I'm more of a fjord guy.





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NEWS ANALYSIS

City Missed Steps to Avoid Network Lockout

IT can set rules to prevent disgruntled employees from causing havoc, execs say.

By Jaikumar Vijayan

THE HIGH-PROFILE sabotage this month of the city of San Francisco's fiber backbone network clearly shows both the extent of damage a disgruntled employee can cause and the need for controls to mitigate the risk of such actions.

City officials lost administrative control of the network's routers and switches for more than a week after an IT worker allegedly reset passwords and refused to reveal them prior to and after his arrest on July 13.

Terry Childs, a network administrator in the city's Department of Telecommunications and Information Services (DTIS), was charged with locking up the network and with planting network devices that enabled illegal remote access to the network. The FiberWAN system carries almost 60% of the city government's traffic.

He revealed the passwords to Mayor Gavin Newsom last Monday, but the administrators remained locked out of the city's VoIP system and some departmental LANs late last week.

Users and analysts interviewed last week said that the city could have avoided the recent turmoil by implementing stronger configuration management techniques along with processes that could quickly detect when someone was attempting to bypass network controls.

"I am completely floored that it [would take] so long to restore access to the equipment," said Jim Kirby, senior network engineer at DataWare Services, a Sioux Falls, S.D.-based IT services provider. "Unless they have some crazy uptime requirement that prevents them from rebooting gear, it's hard to understand."

Kirby suggested that anytime it takes more than 48 hours to restore access to a locked-down network, that indicates that "basic network administration standards" are not in place.

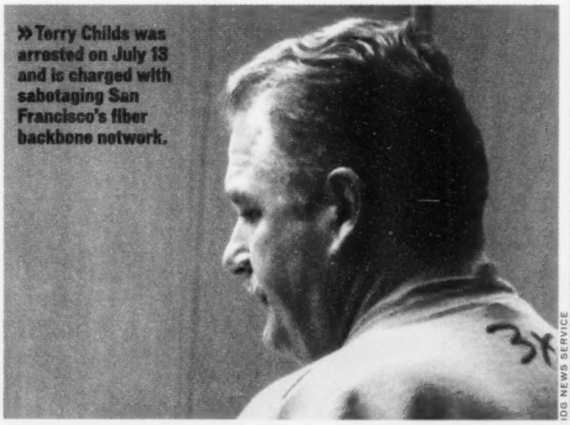
Johannes Ullrich, chief technology officer at the Bethesda, Md.-based SANS Institute's Internet Storm Center, noted that even though insider threats are difficult to control, strong network configuration management processes and a policy of separating duties can help.

In this case, the city's inability to regain access to the network for at least 10 days suggests that San Francisco has no backup copies of its network configuration blueprint.

Strong configuration management processes ensure that "an alert is sent whenever a configuration is changed," Ullrich said.

The San Francisco incident should also convince IT that two or three administrators must understand the full network configuration and jointly control the passwords, said John Pescatore, an analyst at Gartner Inc.

He suggested that, at a minimum, password information should be documented and stored for easy access by an organization's privileged administrators.



» Terry Childs was arrested on July 13 and is charged with sabotaging San Francisco's fiber backbone network.

IDG NEWS SERVICE

Lou Michael, director of network and infrastructure services in Virginia's Arlington County department of technology services, said his organization has a longstanding practice of keeping passwords with multiple administrators.

Meanwhile, Ron Vinson, deputy director of San Francisco's DTIS operation, said last week that the agency has started preparing a systemwide analysis to determine the extent of Childs' activities.

Vinson acknowledged that by late last week, municipal IT managers had still not determined exactly how many devices were illegally installed on the WAN to enable remote access.

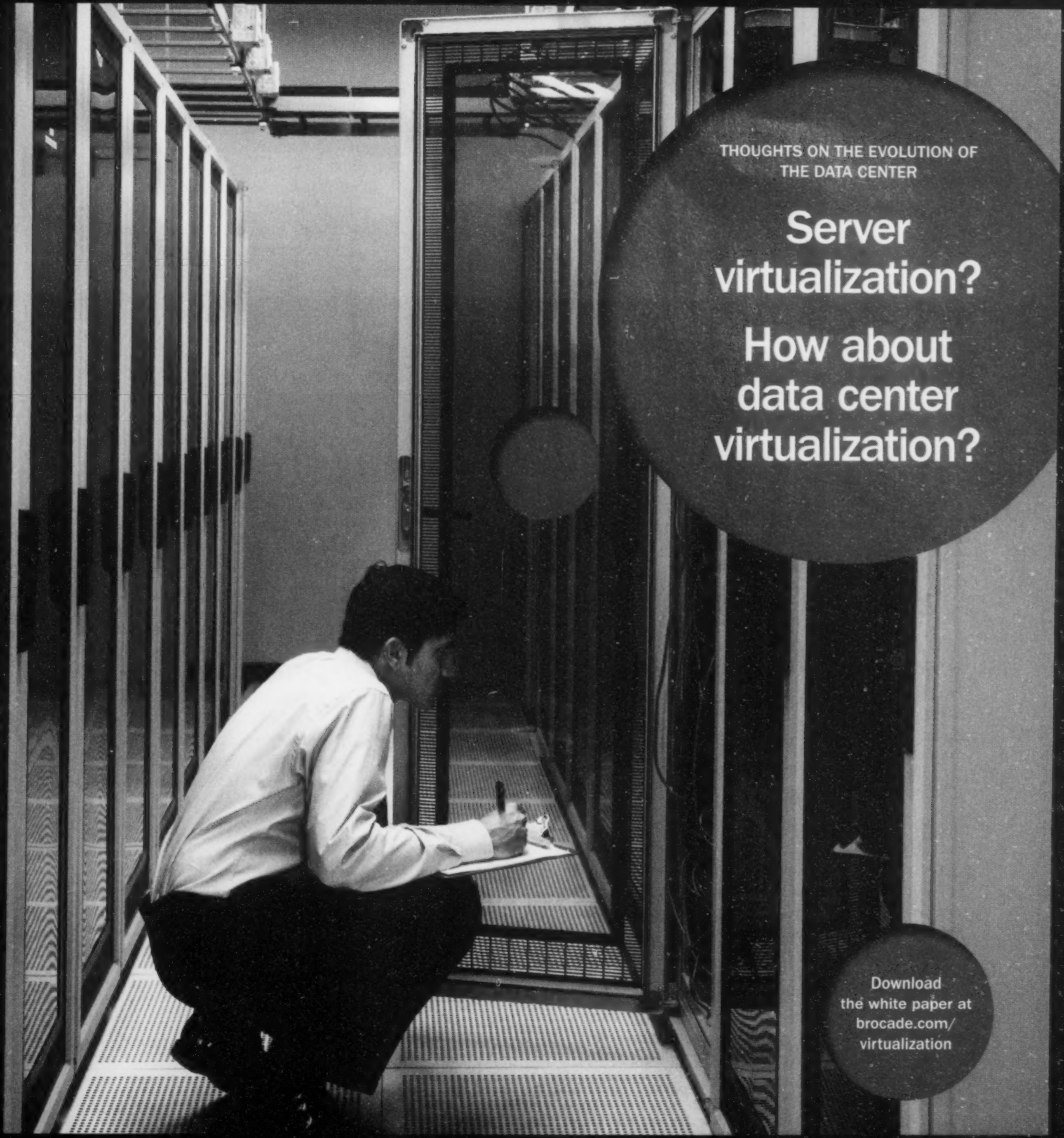
Arshad Noor, CEO of StrongAuth Inc., a Cupertino, Calif.-based supplier of compliance and identity management products, said the San Francisco incident points to a failure by the city's IT managers.

"All in all, IT management is responsible for this mess, because it was their mandate to avoid this situation," Noor said. "While Terry Childs might pay for this situation through jail time or fines, management cannot be absolved of their responsibility."

Childs, 43, continues to be held in a city jail on $5 million bail after his request to reduce the bond was rejected last Wednesday.

Childs has pleaded not guilty to multiple charges in connection with the case. A pretrial hearing has been set for Sept. 24. ■

Robert McMillan *of the IDG News Service contributed to this story.*


THOUGHTS ON THE EVOLUTION OF THE DATA CENTER
Server virtualization?
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BROCADE: THE FIRST STEP IN DATA CENTER VIRTUALIZATION.
How do you reap the benefits of virtualization without abandoning your existing technology? The Brocade Data Center Fabric (DCF) architecture. This strategic framework gives you the performance, scalability, and reliability to embrace technologies like server virtualization today and a virtualized data center tomorrow—leveraging the hardware and software you already own. Learn how Brocade can power your next-generation data center at www.brocade.com/virtualization.

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On the Mark

HOT TRENDS ■ NEW PRODUCT NEWS ■ INDUSTRY BUZZ BY MARK HALL

DR. FRANKENSTEIN IS ASSEMBLING HIS PROJECT TEAM AS WE SPEAK!
GOOD HEAVENS!
I CAN'T READ THESE #¡@$! DIRECTIONS!
THAT'S BECAUSE THEY'RE UPSIDE DOWN!
THE MONSTER

MATTHEW FAULKNER

The Project's the Assembly Line

IN AN information-driven service economy, projects are the foundations of business. So says Douglas Clark, CEO of Métier Ltd. in Arlington, Va. He argues that in an era when business success depends on bringing ideas to market quickly, project management is akin to building and managing a manufacturing plant in days gone by.

"The project is the new assembly line," he says.

Yet most projects, especially in IT, fail to meet expectations. The reasons are manifold, but Clark points to a market dominated by Microsoft Project, software that's fine for scheduling but little more. He says a schedule doesn't reveal the process, with all its interrelations and logic. For that, you need a full-blown project portfolio management application.

Not surprisingly, Clark claims that Métier's Web-based WorkLenz subscription service is as complete a PPM offering as you can buy, er, rent. He says WorkLenz, now in its 5.6 iteration, uses Project Management Institute best practices in areas like budget calculation and risk assessment.

Projects are more than well-run schedules, Clark argues.

He likens its algorithms to "assistants" for project managers. For example, you can use the product's duration estimator to forecast how long a project will take based on the complex mix of resources available.

Next year, Métier intends to release an algorithm tentatively called Builder that will create entire projects based on past project data. And it's developing 3-D visualization features for reporting on project status.

Pricing starts at $10 per user.

Many Myopic Eyes

Open-source proponents claim that the Law of Many Eyes leads to higher-quality, more secure code: Because anyone can view the source code, find problems and report back to the community, you get better software.

But Fortify Software Inc. in San Mateo, Calif., has analyzed 11 popular open-source software products, and the news is not good. According to Jacob West, manager of Fortify's security research group, all 11 have significant vulnerabilities.

What's more, says West, in looking at different releases, Fortify found that old security problems often didn't get fixed and, worse, that new vulnerabilities were introduced. And in an utter embarrassment for open-source advocates, the report reveals that basic security flaws that would easily be detected by automated testing tools are scattered throughout the code. In sum, the Law of Many Eyes is bogus.

22,828

Cross-site scripting errors Fortify found in 11 open-source programs.

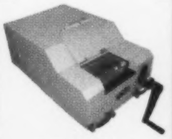
West is not arguing that commercial software is any more secure than open-source products. But he warns that commercial software developers are doing more to develop good development processes and that without augmenting the Law of Many Eyes, the open-source process is unlikely to deliver secure code.

Destroy HDDs Quickly

OK, you've just finished rolling out new PCs. What are you going to do with all those old hard disk drives loaded with sensitive information?

Most companies use software to overlay random bits repeatedly. Others prefer the physical approach and drill holes through the platters.

David Luong, product manager at Fujitsu Computer Products of America Inc., considers both methods too slow for an IT operation staring at thousands of drives. His solution? Magnets.



Fujitsu's Mag Erasure P3M destroys data fast.

Two big, honkin' magnets, to be precise, installed in Fujitsu's Mag Erasure P3M. According to Luong, you place a drive in the 300-pound unit, turn the hand crank for 15 seconds, and voilá — all of the data and the read/write head are destroyed, meeting National Security Agency standards.

Pricing starts at $40,000. ■

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MORE BUZZ

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COMPUTERWORLD

GREEN IT
AWARDS

Nominate Your Case Study Today!

Computerworld's Green IT Symposium, is seeking IT user-organization case study submissions for its Green IT Awards Program.

Eligible nominees are exclusively IT end-user organizations. Nominations of IT end-user organizations are accepted from IT users themselves, their public relations representatives, or vendors on behalf of their IT end-user customers. Multiple submissions of case studies describing different deployments per IT end-user/organization will be considered.

Five finalists in each of the following categories will be recognized at Computerworld's Green IT Symposium on September 18, 2008, at the Gaylord National Resort and Convention Center in National Harbor, MD:

- **ROI in Green Computing**
- **Best Practices in Energy Efficient Computing**
- **Green IT in the Data Center**
- **Reducing IT Complexity Increases Green IT**
- **IT Leadership in Embracing Change with Green IT: Corporate Responsibility**

The deadline for receipt of submissions is Friday, August 13, 2008.

For complete details, and to submit your nominations, visit:
www.greenitsymposium.com/awards.aspx

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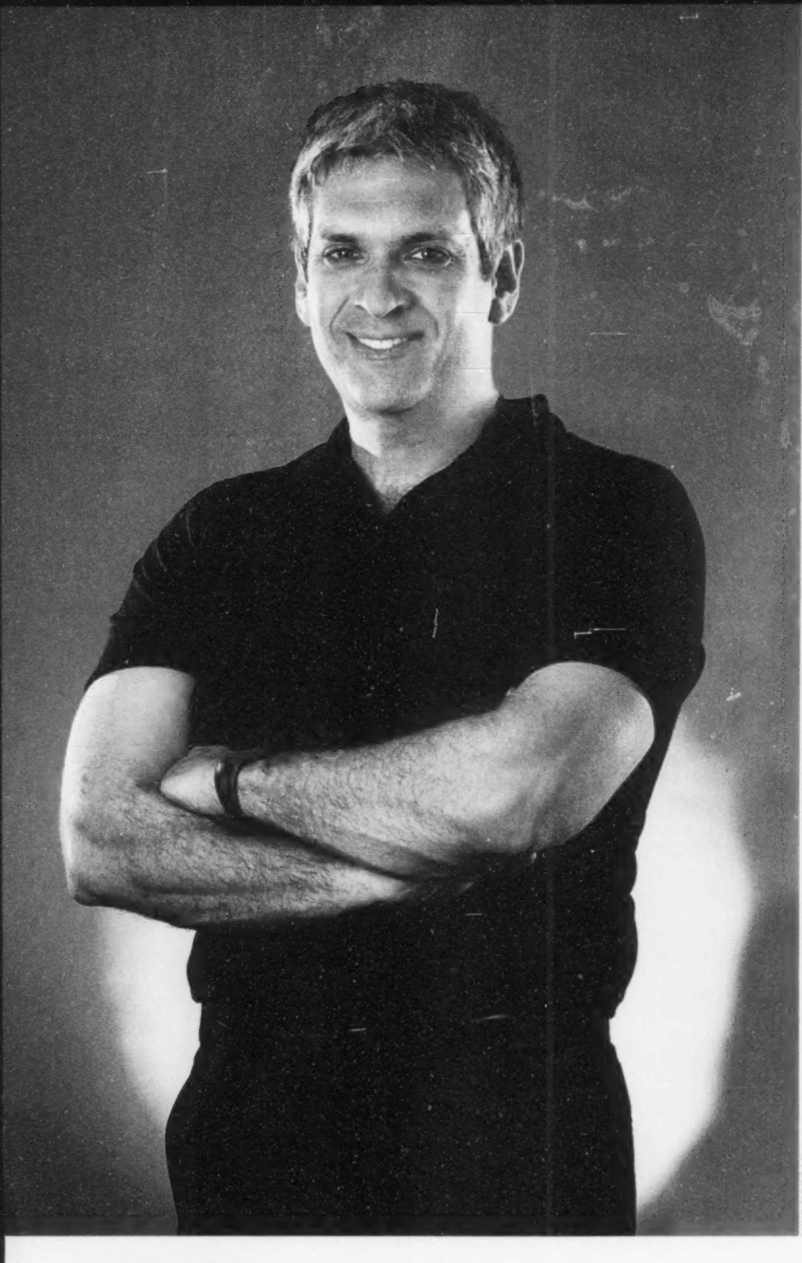


MIKE MORGAN

THE GRILL

Ira Winkler

The **security maven** talks about **how information security differs from computer security,** why **'awareness' isn't enough,** and when grandma's computer has to be shut down.

Dossier

Name: Ira Winkler

Title: Founder and president

Organization: Internet Security Advisors Group

Location: Annapolis, Md.

Favorite technology: Airplanes

In high school, he was: "Voted Mr. Physical Education. I was actually up for Class Clown, but I was the only person nominated who was on two sports teams and so they moved me over for that."

Role model: Maxwell Smart

Favorite vice: *Judge Judy*

Pet peeve: "Man (or should I say idiot) on the street interviews on newscasts."

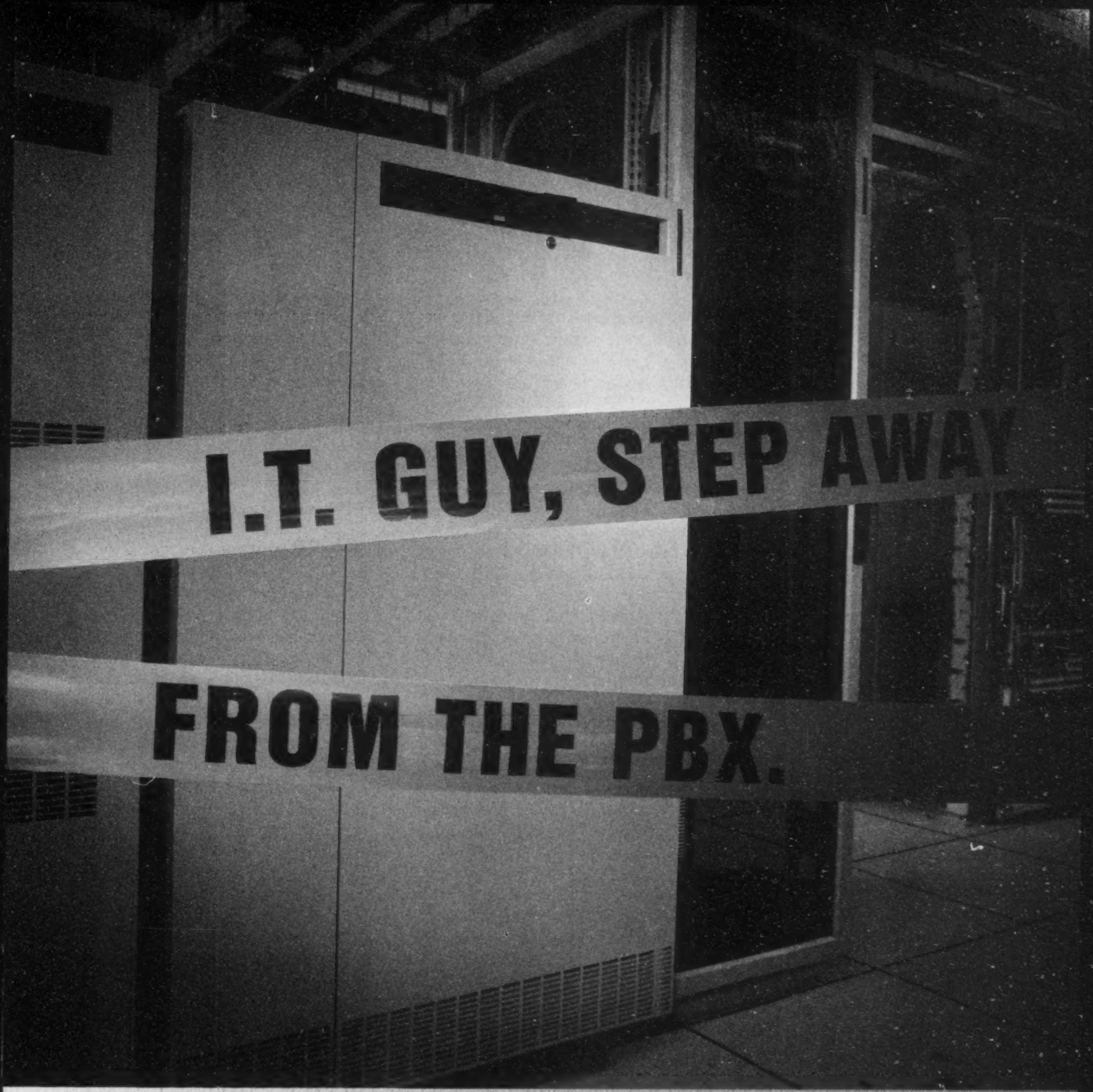
Ask him to do anything but . . . "I just might not do it."

Ira Winkler began his career at the National Security Agency, where he combined computer systems analysis and intelligence analysis. He is founder and president of Internet Security Advisors Group. When Hewlett-Packard Co. acquired ISAG in 2001, Winkler served as chief security strategist for HP Consulting. He is the author of several books, including Spies Among Us *and* Zen and the Art of Information Security.

What's the most important information security lesson you learned while at the National Security Agency? It's all about protecting information, not computers. Information can be in any form. It can be conned out of someone or retrieved from the trash. The CIO has to remember that the title is "chief information officer," not "chief computer officer." So they have to work with the physical security people, for example, to make sure that the guards are going through the building not just looking for fires.

Look at ChoicePoint [which in 2005 revealed that it was tricked into disclosing private information on 163,000 consumers]. A computer didn't get hacked, but does it matter? They had to pay big fines [$15 million], and they should have, because they didn't look at infor-

Continued on page 22



Some things are better left alone.

Before you start that big transition to VoIP, hold the phone. It may not be the grand reconstruction project they've been talking about. Simply stated, it isn't about ripping and replacing or big, upfront costs. That's because it isn't about hardware. It's actually about software. Now you can keep your hardware—your PBX, your gateways, even your phones. Move to VoIP with software. Software that integrates with Active Directory,® Microsoft® Office, Microsoft Exchange Server, and your PBX. Maximize your current PBX investment and make it part of your new software-based VoIP solution from Microsoft. It's big change, without changing it all. Learn more at microsoft.com/voip

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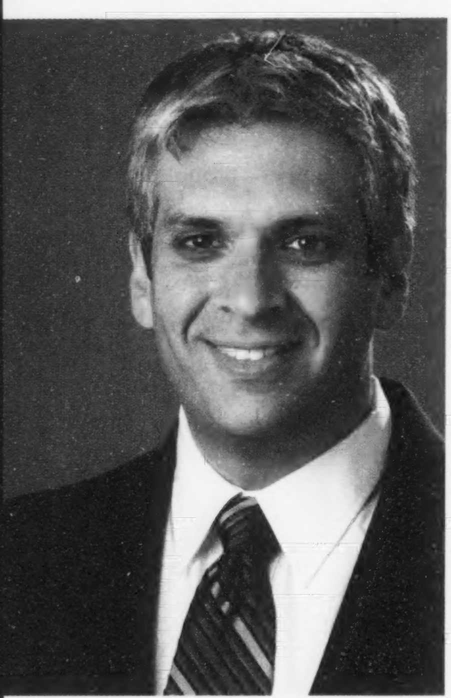

> **“We keep saying ‘pretty please,’ but [ISPs] have no incentive to help.**

Continued from page 20

mation security as *information* security, they looked at it as *computer* security.

So the CIO has to promote information security of all types? Awareness programs can be good, but awareness without enforcement is completely useless. What’s the penalty for browsing pornography? You get fired. You need something like that for other kinds of security violations — for example, leaving your password taped to your monitor. There should be spot-checking — someone walking through periodically looking for passwords. First, line managers should be responsible for reviewing the workplace, and security staffs should do monthly walk-throughs.

The federal government is increasingly in the information security awareness business. Yes, the Department of Homeland Security is relying on awareness efforts. [DHS head] Michael Chertoff says [to security professionals], “Hey guys, work with us, because it’s the right thing to do.”

Government has been asking people to voluntarily cooperate and has gotten no results whatsoever. The Internet service providers and backbone providers are still poorly maintaining the critical infrastructure. We keep saying “pretty please,” but they have no incentive to help. So Congress should pass enforcement laws, and DHS should be mandating things.

What kinds of things might be mandated? Bad guys attack systems remotely over the Internet. When you see grandma sending 50,000 e-mail messages, you know that’s bad traffic. Why don’t ISPs stop obviously bad traffic? Get grandma off until she fixes her computer.

Similarly, ISPs could scan users, and if they are not using the latest [antivirus and operating system] updates, get them off the Internet. “Awareness” means no one is held responsible.

Is that fair? Grandma is no bad guy. If you leave your home PC vulnerable these days, you are not necessarily harming yourself, but you are enabling fraud because somebody is going to take over your computer and use it to attack others or aid in piracy of music and movies and things like that.

But don’t some people object to ISP filtering on censorship/privacy/free-market principles? Arguments that say service providers have no right to stop someone from sending 20 million ping messages are absurd. I am all for freedom of whatever until it starts impinging on the freedom of others as well as creating a financial drain on others.

The mandates I propose are looking to stop the exploitation of other people’s systems, which in turn cause damages to millions of others. The monitoring is targeting what is generally considered criminal activity and is done without human intervention.

At the corporate level, is a combination of awareness and enforcement working pretty well? Some big companies, like Citibank and JPMorgan Chase, are doing reasonably well. But companies like T.J. Maxx [which last year reported that millions of credit card numbers had been stolen from its systems] are not doing so well.

For example, many merchants are asking for exemptions and extensions for compliance with the [Payment Card Industry Data Security Standard]. They want to hold off with PCI compliance so that they don’t have to spend the money. They say it’s too difficult, but the reality is that they don’t want to put the required resources to it. T.J. Maxx had an extension.

But security is like the 80/20 rule, only it’s 99/1. You can solve 99% of your problems with 1% of the effort. If you take care of the basics — enable Windows Update Services, buy antivirus software, get host-based intrusion detection and so on — you make it significantly harder for the bad guys to attack you. They go for the low-hanging fruit, and they keep moving on to more vulnerable targets.

In your talk at the RSA security conference in April, you explained how very basic security lapses made it easy for you to break into a power company’s control systems. Yes, we were able to access the power grid. It was embarrassingly simple. Some negative comments that my presentation received included that Hacking 101 should not be part of an RSA presentation, meaning it is too simple for the audience. The problem is that Hacking 101 was all that was required to attack the power grid, and that people who have that type of response are the biggest threat to security. They know it all, but they know nothing.

— Interview by **Gary Anthes**

READ MORE
For additional information on security issues, read this week’s cover story, “How Secure Is Secure Enough?” **Page 28**

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INTRODUCTION

In a recent online survey of 111 senior IT managers, Computerworld asked respondents about their strategies for aligning IT with the business. Survey results show that for many IT leaders, alignment with the business no longer means just cutting costs or rolling out strategic applications. Increasingly, CIOs define alignment in terms of how effectively their IT departments support core business goals for growth and profitability. In effect, IT has to mind the top line as well as the bottom line—to improve service, drive growth and deliver value to the business.

One strategy CIOs are adopting for business-oriented service across IT is Business Service Management (BSM), an approach for delivering IT services to directly support specific business goals. At the heart of BSM is the integration of IT management disciplines and process automation, which helps IT deliver the level of services the business requires.

This white paper provides an analysis of the survey results and offers practical strategies for adopting BSM, including how you can connect BSM to IT governance and security for a comprehensive Enterprise IT Management approach.

DRIVERS FOR BUSINESS SERVICE MANAGEMENT

The Computerworld survey, which was designed to gauge the adoption rate of BSM at enterprise-size organizations, reveals a prevalent interest in BSM. The survey asked respondents about their familiarity with BSM, defined as a strategy and approach for aligning IT services and components with business objectives and goals. More than 70% of respondents said they are somewhat familiar with BSM, and 31% said they are extremely or very familiar with the concept. A majority of respondents—65%—has adopted BSM or is planning to do so within the next 12 months. (Of these, 12% adopted BSM more than one year ago.)

Don LeClair, a senior vice president with CA, says that he has seen a burgeoning interest in, and understanding of, BSM among CIOs. "One of the core responsibilities of a CIO is aligning IT with the business," LeClair says. "BSM can allow CIOs to do that by changing their focus from managing technical silos to managing the services IT offers to the business."

BSM offers "a growing opportunity for IT organizations to deliver business innovation and alignment with IT investment," according to Stephen Elliot, research director of the Enterprise System Management Software Service at IDC. The appeal of BSM will increase "as products

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across the enterprise management markets deliver value through integrations and service dashboards that empower IT organizations to deliver business value at strategic levels of the organization," Elliot adds (Business Service Management: Survey Shows Rising Customer Adoption and Increasing Maturity, October 2007).

While 65% of survey respondents said that aligning IT and the business is a driver for BSM, there are other drivers as well, indicating that CIOs are looking to achieve a number of goals with BSM.

Increasing IT efficiency is a mandate for many resource-strapped CIOs, and 52% of respondents cited this as a driver of BSM. Given that the scale of IT is growing faster than the size of IT staffs, CIOs need to get the most out of their existing personnel. Automating routine tasks and instituting best practices for repeatable processes—hallmarks of BSM—are ways to boost the productivity and efficiency of taxed IT staffs and reduce errors.

Another top driver of BSM adoption is best practices standards such as ITIL®, COBIT™ and Six Sigma®, cited by 49% of respondents. According to Bob Sterbens, CA director of product marketing, ITIL® in particular complements BSM. "ITIL® is a framework that provides the baseline to deliver BSM," Sterbens says. "Think of BSM as the goals and objectives that are achieved through the processes and best practices of ITIL®."

For BSM to be consistently effective, IT departments need to continually assess their investments and tie those back to the needs of the business while ensuring compliance. Consequently, the 42% of respondents who mentioned IT governance and regulations as a driver for BSM offer "strong validation that IT departments are managing governance in a professional way as a means of continuous improvement," LeClair says. This also shows the interdependence of BSM and IT governance practices.

As expectations of IT have increased, IT budgets have not kept pace. For 41% of respondents, BSM is viewed as a way to manage the cost of IT investments. In particular, CIOs turn to BSM to rein in operational costs through automation of routine processes. Automation of routine tasks can also reduce errors and control costs by decreasing service issues and downtime, critical benefits for any enterprise that is highly dependent on IT.

In a service-centric environment, IT increasingly needs to be proactive. Among survey respondents, 35% said that customer responsiveness is a factor for adopting BSM. By viewing IT components within the context of the services they deliver, IT can improve root-cause analysis and problem management.

For 32% of respondents, BSM provides executive visibility and transparency into IT. Increasingly, the value of IT is that of an enabler of the business and not simply an expense. Not coincidentally, 32% of respondents said that service-level agreements are pushing the adoption of BSM as IT departments offer guarantees that service quality meets business standards.

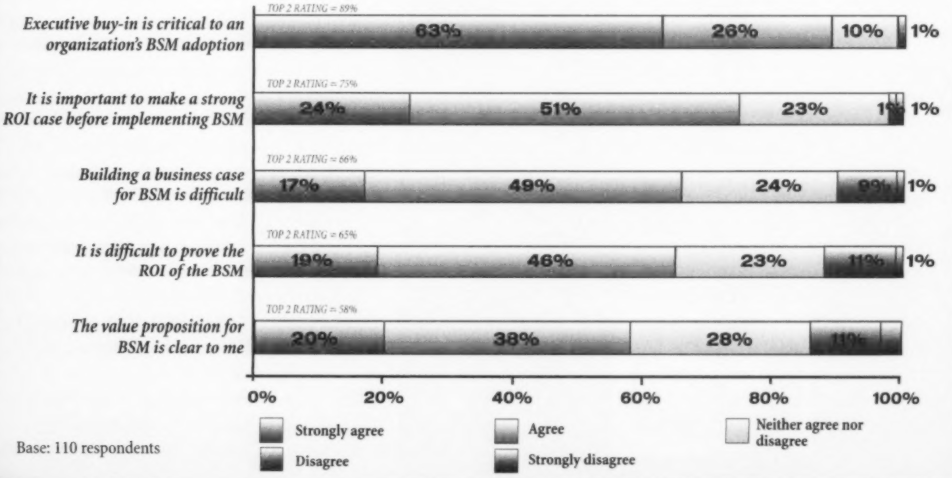
BENEFITS OF BSM

Survey respondents reported many important benefits of BSM that address various issues, including operational and cultural issues:

- **Aligning IT with the business.** This is essentially an overarching goal of BSM and its most important benefit; 84% said alignment is extremely or very important. This finding is not surprising, considering that IT/business alignment is a primary driver of BSM.
- **Improved end-user satisfaction.** This is a benefit cited by 79% of respondents as extremely or very important. One way that BSM accomplishes this is through monitoring application and transaction per-

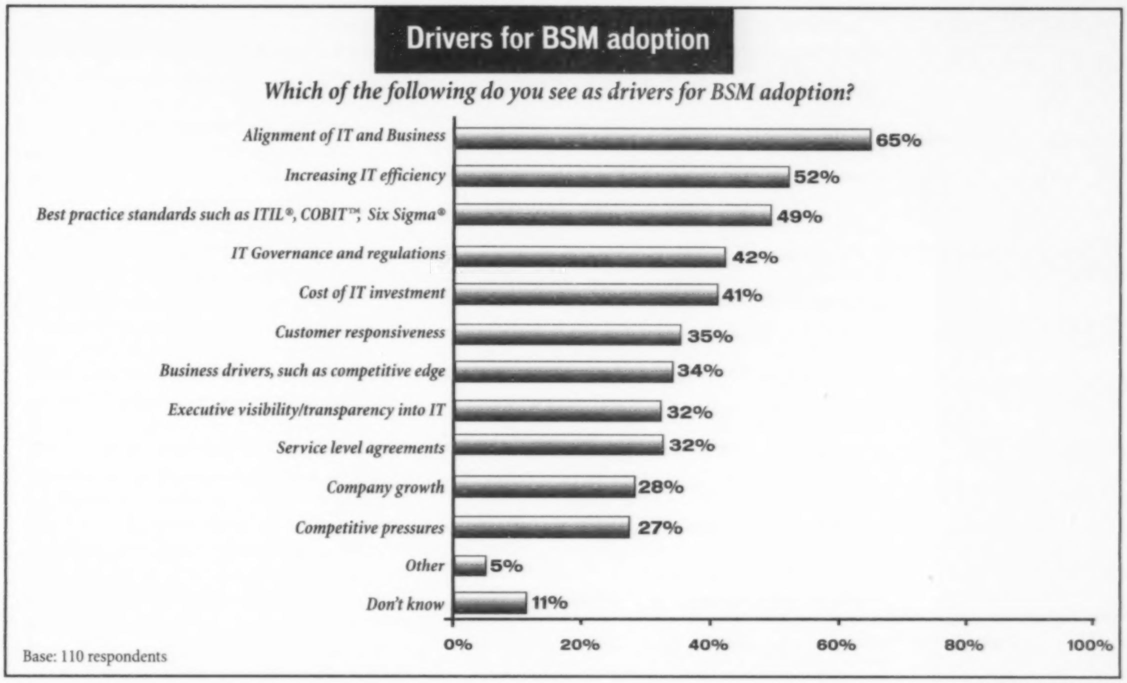
Attitudes towards BSM

Please rate your level of agreement with each of the following statements regarding BSM.



Base: 110 respondents

Source: *Computerworld*/ IDG Research



Drivers for BSM adoption

Which of the following do you see as drivers for BSM adoption?

Base: 110 respondents

Source: *Computerworld*/ IDG Research

formance with service-centric metrics such as end-user response time. Traditional IT metrics such as CPU utilization and memory usage have limited relevance in a service-centric environment because they don't indicate the quality of the end users' experience.

- **Improved communications.** Another key benefit of BSM, cited by 74% of respondents as extremely or very important, is an improvement in communications among departments. "One of the keys to BSM is establishing a common definition of what a service is and communicating that across technical silos," LeClair says. That common definition enables IT to shift its focus from managing technologies to managing services, thereby facilitating communications with the business side as well.
- **Cost savings.** Rounding out the top four benefits of BSM is overall cost savings for the IT department, mentioned by 72% of respondents. The standard processes advocated by BSM improve efficiency and facilitate the adoption of best practices, both of which can reduce the cost of IT operations. In addition, standard processes can be automated, a key factor in reducing costs.
- **Improved predictability.** Standardizing and automating routine tasks also improves predictability—a benefit cited by 70% of survey respondents as extremely or very important.
- **Operational benefits.** While BSM inherently aims to improve the level and reliability of service to end users, it's important to note that there are several benefits that address IT operations specifically. According to the Computerworld survey, three such benefits stand out in terms of being extremely or very important to respondents:

1. BSM reduces downtime in the IT department (by providing consolidated management that leads to faster repairs and more proactive response), cited by 68% of respondents.
2. BSM helps IT operators prioritize tasks (by providing visibility into demand for services, which enables accurate planning), cited by 65% of respondents.
3. BSM decreases time to market for IT services (by enabling IT to dynamically provision IT assets as needed and dynamically manage workloads), cited by 60% of respondents.

One of the key ideas behind BSM is that it benefits both the end users, who are the recipients of timely and reliable services, as well as the IT department, which is freed up from performing routine tasks in favor of doing more strategic work.

BARRIERS TO BSM ADOPTION

As with any initiative designed to change the nature of what IT does, CIOs must contend with challenges when adopting BSM. Survey respondents reported the following obstacles to implementing BSM:

- Lack of understanding of the value proposition (48%)
- Already committed to other major initiatives (46%)
- Staff skill sets (42%)
- Confidence in the maturity of the solutions being offered (34%)
- Budget (32%)
- Have not adopted ITIL® (29%)
- Technology integration (28%)
- Implementing a CMDB (26%)

BSM: Delivering on Business Goals

STRATEGIES FOR SUCCESSFUL BSM ADOPTION

There is no boilerplate template for implementing BSM; how an IT organization proceeds depends entirely on its starting point and its priorities. As a concept, BSM can be overwhelming, so it pays to "have a good idea of the end state you want to achieve and put a plan in place to get there incrementally," says Allan Andersen, CA vice president of product management.

To successfully adopt BSM, an IT department has to clearly assess its current capabilities and process maturity level in four general areas which, says Sam Somashekar, CA senior principal product manager, cover the entire service lifecycle. By tackling each of these areas based on priorities and where best to achieve a return, an IT organization can take an incremental approach to implementing BSM that incorporates continual process improvement:

- **Application performance management (APM).** This area provides IT with comprehensive visibility into every transaction and enables the management of transactions from a performance perspective. APM enables IT to react quickly to performance issues by supporting real-time monitoring capabilities. In addition, APM provides an understanding of how IT problems affect business services.

  According to Rick Fitz, vice president of product management at CA, IT can easily grasp APM by shifting how it has typically looked at performance. Traditionally, IT has focused initially on detecting faults in the infrastructure and then stabilizing them, followed by monitoring the performance of devices, and finally, by looking at transaction performance. "With BSM," Fitz says, "IT has to look at transactions first, which ensures that problems affecting users are addressed quickly."
- **Data center automation.** By automating routine, repetitive tasks such as patch management and software delivery, IT can provision IT assets as needed and dynamically manage workloads. In addition, data center automation provides the business with service planning reports and can enable IT to support changing conditions through real-time response. Consequently, data center automation helps IT operations streamline its tasks and facilitate better service to end users. Computerworld survey respondents recognize the value of data center automation. In fact, 89% of respondents said that data center automation is at least somewhat important to their organization, with 32% rating it extremely important and 32% rating it very important.
- **Infrastructure management.** The key in terms of BSM is "to integrate infrastructure management into a cohesive, unified view," Somashekar says. A unified view of infrastructure components gives IT the ability to conduct root-cause analysis by correlating events and performance issues across the entire IT infrastructure. "Correlating activities across the infrastructure is necessary in order to handle change better," Somashekar adds. "From an infrastructure management perspective, it's important to diagnose and repair problems before they impact services."
- **Service management.** This involves "the analysis of a lot of the activities that happen in the infrastructure," Andersen says. "This is accomplished through looking at things like dashboards, service levels and the overall services delivered." With service management, IT gains the ability to manage both hardware and software assets, which often results in better cost control and better governance of software licenses.

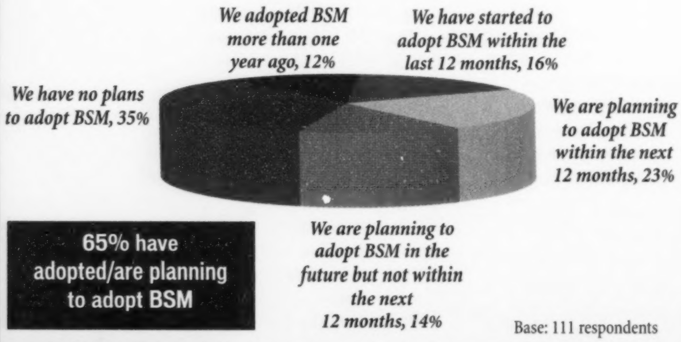
CIOs are shifting from running IT as a technology base to running IT as a business, and BSM "allows CIOs to run IT more efficiently and align IT with the business," Andersen says. To ensure continual business alignment, IT needs to be able to connect BSM to security and governance solutions for a comprehensive Enterprise IT Management (EITM) approach. "As regulations and compliance issues become part of a service, IT has to manage IT services and provide governance of IT investments so that the services delivered are the right services," says LeClair. "BSM is about providing the services, while governance is focused on strategic visions, projects and decision making," adds Sarah Meyer, CA product marketing director.

CONCLUSION

To succeed at BSM, IT departments need to automate processes and integrate the management of IT components to deliver high-quality services that meet business needs. In effect, this means that IT departments can no longer focus on managing devices or applications—they must correlate technology components within the infrastructure to the business services that they support. In the process of doing this, the role of IT shifts from being centered on providing technology to focusing on providing services that contribute to business goals. The end result of successful BSM adoption—IT/business alignment—is characterized by a responsive, dynamic IT infrastructure that supports the delivery of services that enable users to succeed and a business to thrive.

BSM adoption

At what stage is your organization in terms of BSM adoption?



Base: 111 respondents

Source: *Computerworld*/ IDG Research

OPINION

John D. Halamka

Time Is the Most Valuable of Gifts

TIME is the one commodity you cannot buy or make more of. It is our most valuable resource. As a CIO, I should allocate this precious commodity to those people and projects most needing attention.

I would really enjoy spending my days meeting with friendly, aligned and supportive stakeholders and focusing on the projects that are proceeding flawlessly. But my time is better spent on the stakeholders who aren't satisfied and the projects that are troubled by politics, scope creep or technical challenges.

Every day, my staff peppers me with questions on the budget, strategy and workplace politics. I should not be the cause of a slowdown in their productivity, so I respond within an hour with either an answer or a set of next steps. This is a great use of my time.

Every day, my customers ask for new projects, new priorities or new features. I respond with either a blog entry so that I widely communicate the answer, a personal e-mail or a set of next steps (pulling in our governance committees to consider the request). This is a great use of my time.

Every day, I receive a hundred requests from salespeople for my time. I will not grant my time to cold-calling salespeople. As needs arise, I'll search the Web for technologies and user experiences with various products. I'll then contact the vendors I want to talk to.

Every day, I receive numerous requests to travel to give presentations. I'm always happy to educate, communicate and collaborate. But whereas doing a conference call, WebEx meeting or videoconference is a great use of my time, sitting in an airport for half a day because of a canceled flight is not. I'm hoping our culture changes to the point that we all recognize the value of time and do more virtual collaboration.

The value of time has been much on my mind lately, and I realized that while it's true that you can't make more time, you can make a gift of it. I did this recently for my father.

While it's true that you can't make more time, you can make a gift of it.

I had a Google Advisory Council meeting in Silicon Valley that ended in the early afternoon. My parents live in Southern California, so I asked my father to fly up to San Jose.

We drove together through the most beautiful places in the Santa Cruz Mountains — Crystal Springs Reservoir/Filoli/Alpine Road, Highway 84 to Skyline Boulevard, La Honda, San Gregorio, Highway 1 to Pigeon Point Lighthouse and Pescadero. For six hours, we turned off our cell phones, drove and talked. We talked about life, goals, the future, family and challenges. We had dinner at Duarte's, a 19th century restaurant known for its fresh artichoke dishes and homemade pie.

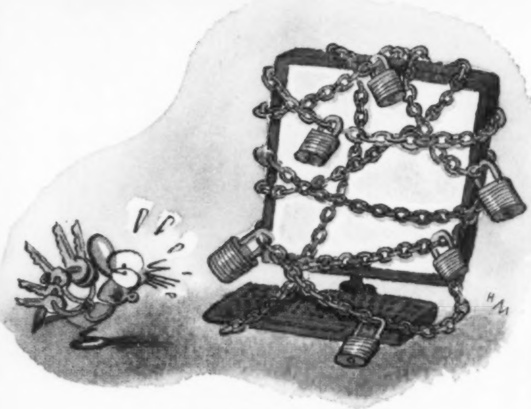
At sunset, we returned to Skyline Boulevard and played our flutes together — my shakuhachi and his Native American flute. I then dropped him off at the airport and spent the night in San Francisco before an early-morning board meeting.

I can think of no more profound gift than time. My daughter and I recently began playing the Native American flute so that we can have a family gift of time. My parents will join us on our family vacation to Yosemite in August, and we'll play music together across three generations.

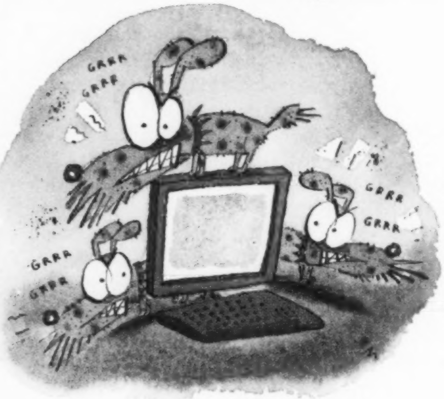
I would be completely content to never get another tie, CD or gadget for Father's Day if instead I could have the gift of time from my daughter for a walk in the woods, kayaking a river or playing a flute.

Next time you ask how to organize your day as an IT professional, think about the value of your time. Think about the needs of your customers, staff and family. If you think about your time as a gift and your most valuable commodity, I suspect your schedule may change. I know mine has. ■

John D. Halamka *is CIO at CareGroup Healthcare System, CIO and associate dean for educational technology at Harvard Medical School, chairman of the New England Health Electronic Data Interchange Network, chair of the national Healthcare Information Technology Standards Panel and a practicing emergency physician. You can contact him at jhalamka@caregroup.harvard.edu.*

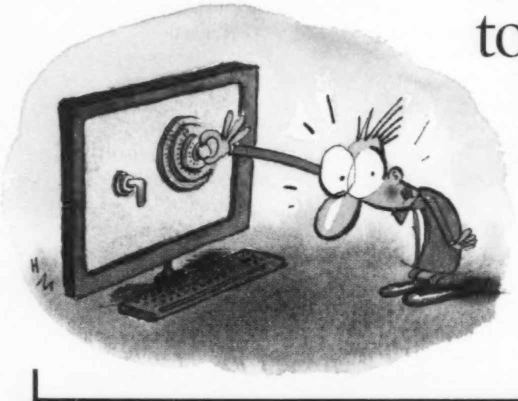


How SECURE is SECURE ENOUGH?



Are your information security plans too big, too small or just right? Here are five steps to help you decide.

BY JAIKUMAR VIJAYAN



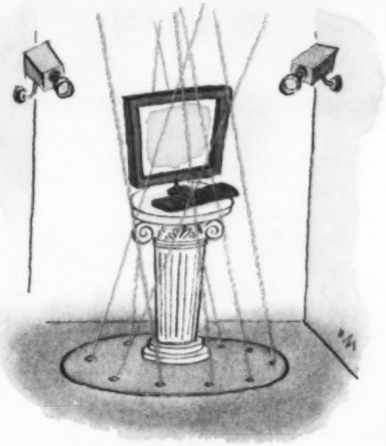
IF THERE is a Holy Grail in the information security industry, it surely is the answer to the question, "How secure is secure enough?"

It's a question that many security managers have either avoided answering altogether or tried to quickly sidestep by throwing a fistful of mainly pointless operational metrics at anyone who cared to ask.

But with a faltering economy beginning to put the squeeze on IT budgets, and security managers being asked to justify every dollar they spend, there is a growing need to come up with a better answer to the query. Increasingly, there is pressure on IT managers to demonstrate how exactly their security investments are helping them manage threats to their businesses. Companies want to know if the money they are spending on security is too much, too little or just enough.

Answering the question with any degree of accuracy involves art and luck as much as it does science, say security managers. But by adopting the right approaches, it is possible to arrive at a better answer than some might expect, they say.

Here are five steps to help you determine whether your company is secure enough.



ILLUSTRATIONS BY HAL MAYFORTH

1

Decide how secure you want to be. To know whether your security controls are meeting business objectives, you first have to know how secure you want to be, says Krag Brotby, a consultant at the Information Systems Audit and Control Association (ISACA) and author of several books on security governance models.

There is no such thing as 100% avoidance of all risk, so the goal should be to decide how much you are comfortable with, he says.

"People often talk about acceptable risk," says Brotby, but what you really should focus on is acceptable business impact.

In other words, exactly how much disruption is your business willing to endure from a security compromise before it invests in mitigating potential threats? To make that determination, consider these questions:

- How much is the business willing to spend to mitigate a threat that poses a 1-in-10 chance of causing a business disruption worth about $2,000?
- How much would it be willing to spend on the same threat if it was likely to result in $10 million in damages?
- How long can a critical system be down?
- What sort of recovery-time objectives need to be met?
- What, if any, are the regulatory and industry compliance obligations?

"These are the type of questions that need to be asked at the executive level," Brotby says. "By the time you are through this negotiation process, you have a very strong indication of the acceptable level of impact" and can plan for the future accordingly.

2

Get a handle on asset value. To manage risk, it's not enough just to know how serious a threat is, says John Meakin, group head of information security at Standard Chartered Bank. You also need to understand the probability of that threat actually being exploited in your environment, the value of the assets that are the targets of the threat and the likely effect on your business. Only then can you really know if the cost involved in mitigating a threat is justified, he says.

That approach has allowed Standard Chartered to do things like defer installing security patches — even critical ones — on some systems because it decided that the effort was not worthwhile, based on the actual risk.

Similarly, it has allowed the bank to permit unauthenticated access to some of its internal systems because there are enough compensating physical security controls.

"Once you use a risk-driven approach, it actually is incredibly liberating. It allows you to challenge some of the long-held rules" related to the use of security tools, Meakin says.

Core to this approach is the need to understand asset value, he says. Not all IT systems are created equal, and not all of them present the same risks or have the same level of exposure to threats. Therefore, it's important to assign a business value to the IT assets in your organization, says Meakin.

Asset value is based on factors such as the criticality of applications or the services supported by an IT asset and its interdependencies with other applications and infrastructure components, he says.

For instance, an Active Directory server that supports multiple business-critical applications would likely be considerably more important than a server running an e-mail application, from a business continuity standpoint.

3

Implement a control framework. Once you have a good idea of the desired state of security, choose the most appropriate set of technology, management and process controls to help you get and stay there.

Perhaps the most efficient way of doing this is to implement an internal framework that maps business and risk management requirements to their appropriate IT controls, says Eric Litt, chief information security officer at General Motors Corp.

"In order to make good decisions, you need to have a framework for your security program," he says.

Standards such as the Cobit control framework, ISO 17799/27001 and COSO can help IT organizations identify the controls that will help them meet their particular business needs and comply with regulatory requirements, Litt says.

"You get every single tool underneath the sun," he says. "That's what these frameworks provide for you."

The ISO 27001 and 27002 frameworks can help a company develop policies, procedures and processes for meeting its risk management and compliance objectives, Litt says. They also provide a list of technology controls that need to be used to meet those objectives.

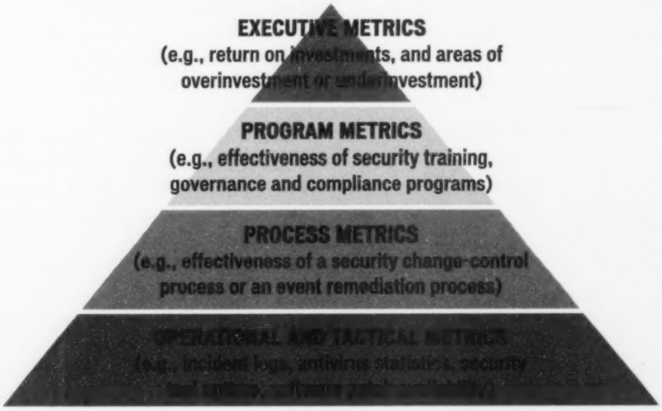
For example, the frameworks can be used to decide the appropriate tools to meet an internal data access control objective or to comply with a statute that requires data logging and auditing capabilities.

A formal framework gives companies a way to quickly assess how effectively their controls are working, because each security control is mapped to a specific business or compliance objective, says Marc Othersen, an analyst at Forrester Research Inc.

“It shows why a control is there in the first place. It links security controls to IT risks and shows what would happen if a particular control fails,” says Othersen. “The IT risk management goal is to put context around a control failure.”

GM’s Metrics Framework

The audiences for information security metrics and the purposes those metrics serve can vary, so it’s important to ensure that all aspects of an IT security program are measured. The layers on the GM pyramid do not represent a hierarchy; they are simply used to separate metrics by purpose and by audience. The minute-by-minute operational metrics, for example, help IT managers determine whether security tools are working as intended. The process layer helps the company decide whether course corrections are needed. The executive layer helps the information security team communicate with top management.


EXECUTIVE METRICS
(e.g., return on investments, and areas of overinvestment or underinvestment)
PROGRAM METRICS
(e.g., effectiveness of security training, governance and compliance programs)
PROCESS METRICS
(e.g., effectiveness of a security change-control process or an event remediation process)
OPERATIONAL AND TACTICAL METRICS
(e.g., incident logs, antivirus statistics, security tool uptime, software patch availability)

4 Measure everything.

Use metrics to ensure compliance with control objectives. The audiences for such metrics and the purposes those metrics serve can vary, so it’s important to ensure that all aspects of an IT security program are measured.

A metrics program that is focused purely on operational data — such as firewall log data or antivirus data — offers no navigational or management metrics, says ISACA’s Brotby.

“If I don’t have good policy compliance, is it because people don’t know how to do it or because they are ignoring my policy?” he says.

To understand such issues, GM has established a four-tiered metrics framework to collect and analyze performance data on multiple aspects of the company’s information security program (see “GM’s Metrics Framework,” this page).

The right metrics can help businesses track, trend and report on security performance, says Ed Cooper, vice president of marketing at Skybox Security Inc., a vendor whose risk-modeling products are used by organizations such as Standard Chartered Bank. The trick is to know which metrics make sense for each stakeholder, how to gather the information and what language to present it in, he says.

“Everybody looks at risk from their own point of view. Metrics have to be put into some sort of relevancy” for each perspective, Cooper says.

5 Monitor all controls.

Implementing controls for dealing with security threats is one thing. Testing, monitoring and validating them is another. “If you have key controls on critical processes, you need continual monitoring to make sure they are working,” Brotby says.

This sort of monitoring can be part of a broader IT governance program or compliance and auditing effort.

Often, many of the controls that companies are using to manage risk were originally implemented in response to some tactical issue. Many companies, for instance, have implemented network behavior analysis tools in response to concerns over so-called zero-day threats that take advantage of unpatched software vulnerabilities.

It’s important to tie controls back to a specific business risk and then monitor them to ensure that they are indeed doing what they were intended to do.

“The problem with controls is that they are put in place reactively to a particular problem, and then they pile up, so you get layers of controls that people don’t know are controls,” Brotby says.

To a large extent, governance is what you are doing when you gather metrics to prove compliance with an internally or externally driven security requirement, Meakin says.

“Compliance means showing these are the risks and these are the controls, and, yes, I have mapped those controls to the regulatory requirement,” he says. “The fact I am measuring is a demonstration of proper governance.”

Taking such steps will be challenging for large companies where the security environment has grown in response to tactical considerations as opposed to strategic ones.

To understand how secure you need to be in that kind of environment, start by looking at your industry or regulatory compliance objectives, Othersen says.

But whatever your environment, get started. A better answer to the big security question is within reach. ■

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GIRL SCOUTS U.S.A.
SAN DIEGO IMPERIAL
289

Cassandra Walls, Kyleigh Hanson and Kiana Oakry are all smiles at Technology Goddess camp. Walls has launched her own online newspaper.

CAREERS

Girl Power!

From Technology Goddesses camp to your future IT workforce. **By Julia King**

SAN DIEGO

IT'S 10 O'CLOCK on a sunny April morning in Balboa Park. In a spacious Girl Scout cabin tucked away amid lush green palm trees, 20 girls ranging in age from 11 to 14, most wearing jeans and pigtails, are gearing up for today's camp activities. But there are no sit-upons or s'mores, potholders or paper crafts — just 21 laptops, two color printers, 10 digital cameras, two scanners and a palpable abundance of preadolescent energy and creative enthusiasm.

Welcome to Technology Goddesses, a program of weekend and weeklong technology camps that aims to keep young girls engaged in computing and technology, especially through those dicey middle-school years when girls' interest in computing begins to decline. Studies show that prior to fifth grade, boys and girls have a similar level of interest in computers. But after that, boys' interest increases and girls'

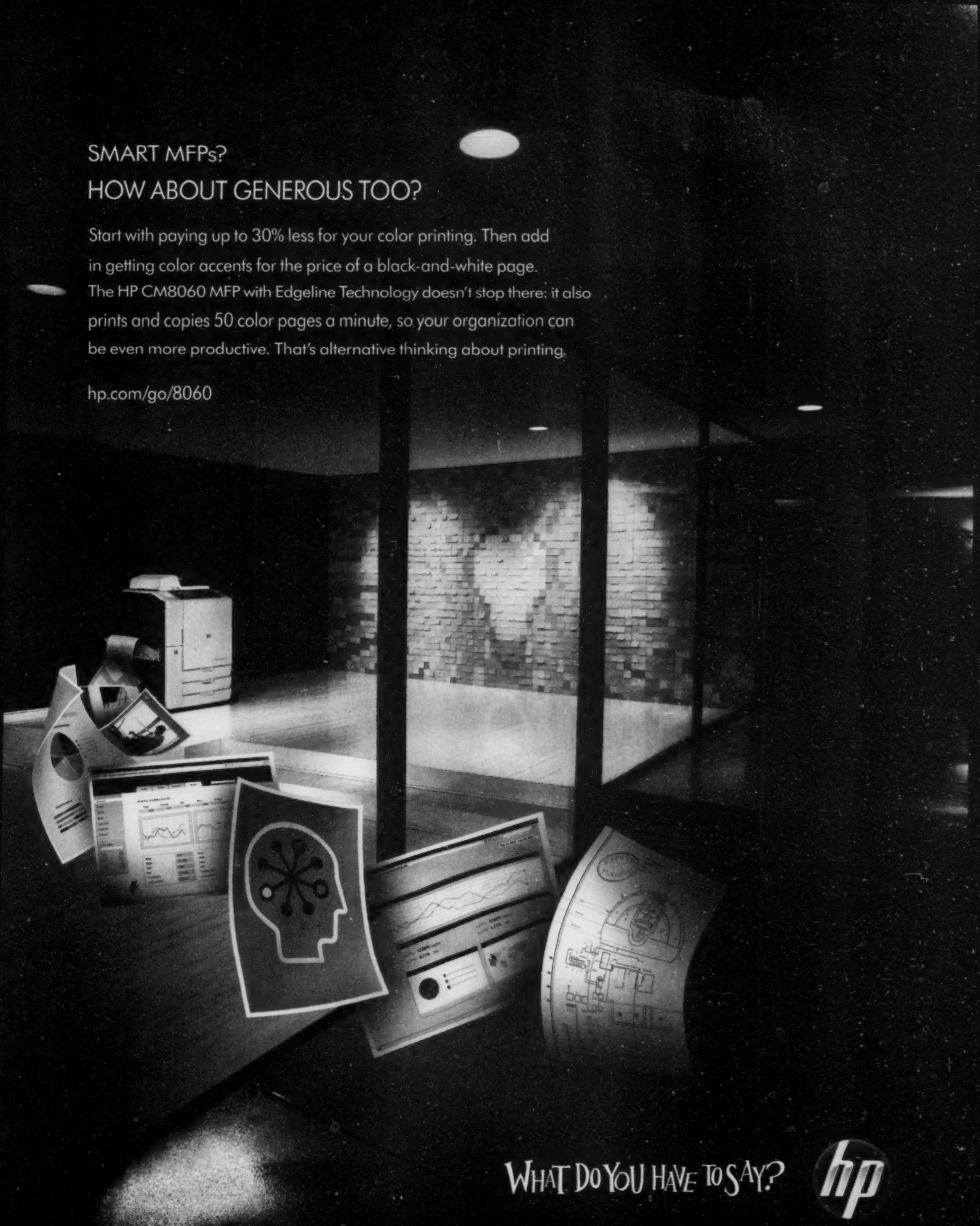
Continued on page 34

PHOTOS BY JULIA KING

Sobering Statistics

37%	Percentage of computer science degrees awarded to women in 1984
70%	Percentage decline in the number of women choosing to major in computer science between 2000 and 2005
15%	Percentage of girls taking Advanced Placement exams for computer science in 2006 – the lowest female representation of any AP exam
19%	Percentage of computer science degrees awarded to women in 2007
9%	Percentage of U.S. technology patents in which women were involved

SOURCE: NATIONAL CENTER FOR WOMEN AND INFORMATION TECHNOLOGY (*WWW.NCWIT.ORG*)



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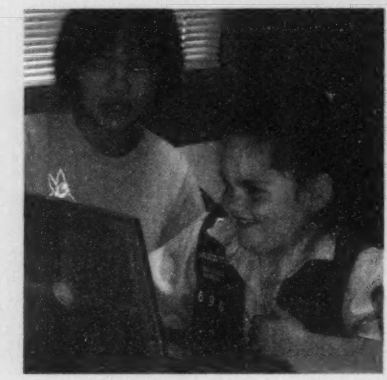
“Any one of these girls could be a CIO one day because they’re starting now.

CORA CARMODY, SENIOR VICE PRESIDENT FOR GLOBAL IT, JACOBS ENGINEERING GROUP INC.



Continued from page 32

interest begins to wane. The upshot is fewer female computer science graduates and fewer women in IT careers.

Cora Carmody is hoping that Technology Goddesses will help reverse that trend and make technology relevant — even cool — for this at-risk age and gender group, by teaching girls about digital design, Web site development, computer graphics and digital moviemaking, and by exposing them to women in technology-related careers.

Carmody, senior vice president for global IT at Jacobs Engineering Group Inc. in Pasadena, Calif., also considers the program a way to build the future IT workforce. “Any one of these girls could be a CIO one day because they’re starting now,” she says.

Carmody founded the program in 2002 on the East Coast and began working with the Girl Scouts in 2003, when she moved to the West Coast to work at Science Applications International Corp. Since then, the program has logged more than 11,000 hours and reached more than 1,000 girls through 33 workshops, seven weekend programs, three weeklong camps and eight field trips to places like Microsoft Corp.’s Innovation Center in Irvine, Calif., and Cox Communications Inc.’s multimedia digital production studio at Petco Park, the home playing field of the San Diego Padres.

All of the programs take place in a “girl-friendly” learning environment.

“The patterns of learning are different for girls,” says Carmody, who is the mother of three sons and a daughter and the leader of a Girl Scout troop.

“Girls are much more social. They like working together in teams. They’re also much more impressionable by role models. And their role models tend to be older girls, not adults. An older girl is the best technology mentor for a younger girl,” she says.

Technology Goddesses and Girl Scouts made a perfect pairing, especially since one of the Girl Scouts’ mottoes is “As you learn, teach someone else.” Also, as of sixth grade, every Interest Project, or IP, for which Girl Scouts earn a badge includes a career component, as well as skills, technology and service components.

“Through Technology Goddesses, the girls learn to use technology and gain life skills and develop critical-thinking skills,” says Jo Dee Jacob, CEO of Girl Scouts, San Diego-Imperial Council “They educate themselves and others.”

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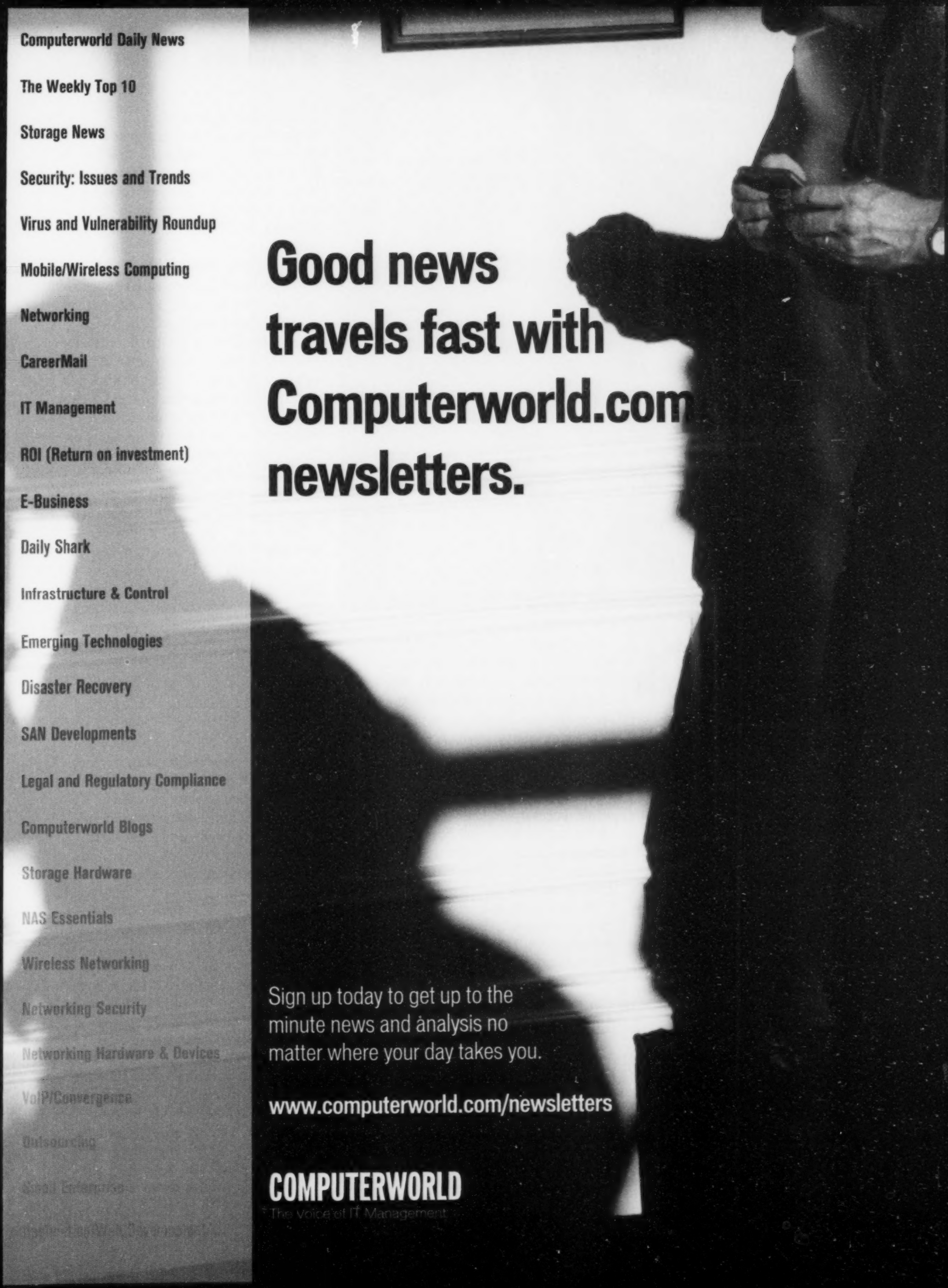
MORE GODDESSES

Additional photos and the girls’ multimedia presentations can be viewed at **computerworld.com/more**.

This particular weekend, the seventh-, eighth- and ninth-grade scouts, called Cadettes, are using Bureau of Labor Statistics data to research IT-related careers. They are also coaching younger Brownies and Daisies, who are in kindergarten through third grade, and the campers join briefly for various technology lessons.

Today, it’s eighth-grader Angela

Continued on page 36



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COMPUTERWORLD
The voice of IT Management

Continued from page 34

Zhang's turn to lead a group of Daisies through a "Point, Click and Go" Internet navigation and safety session. A Girl Scout since the fourth grade, Zhang aspires to be a surgeon. This summer, she'll spend three weeks at a camp for talented youth sponsored by Johns Hopkins University.

"I like this camp because it's so relaxed and you learn so much," Zhang says.

In the afternoon, Leslie Biasi, a Girl Scout co-leader and project coordinator at Dot Hill Systems Corp., a RAID storage firm in Carlsbad, Calif., teaches a multimedia workshop for the older girls. Last year, Biasi took an unpaid leave of absence from her job to volunteer at the Technology Goddesses weeklong camp.

Like Carmody, she is committed to helping girls appreciate the creative and career possibilities that IT has to offer.

Years ago, "when I first started learning HTML and saw how easy it was, I thought, 'Why are only guys doing it?' " Biasi recalls. "HTML is just text telling the computer to display a picture or make text a certain color."

The products from Biasi's session are the main attraction on Day 2 of camp. That's when the girls showcase the multimedia presentations they've created about Technology Goddesses programs. These incorporate video, clip art, photos and lots of music, ranging from Beethoven's Ninth Symphony to the bilingual rap and rock tunes of Karsh Kale.

Over the course of the two days, the girls also get girly with technology. They make scented bath salts and use graphics software and designs downloaded from the Internet to create labels for the jars. These items, Carmody points out, can be sold to raise additional funds for more Technology Goddesses programs or the Girl Scout troops, or to offer scholarships to Technology Goddesses summer camp. This, too, is in line with another Girl Scout motto: "A Girl Scout uses resources wisely."

Virtually all of the Technology Goddesses' camp activities, workshops and programs are designed to be repeated by other Girl Scout troops. Step-by-step materials and directions are available in a "badge-in-a-box" format at *www.technology-goddesses.org.*

"I'd like to see this program grow," says Carmody. ■

Angel Rodriguez, age 14, helps Brownie Ashley Cancino, age 6, navigate the Internet.

Even Goddesses Need Role Models

Not all technology professionals are geeks; not all technology professionals are CIOs. Some make movies. Others are graphic designers or Internet entrepreneurs. The possibilities are infinite.

That's the message that Technology Goddesses wants to send to the tween girls who participate in its programs, and it needs help getting the word out.

There are lots of ways to help, says Technology Goddesses founder Cora Carmody. "During field trips and workshops, we have career panels and bring in professionals from various fields to talk about what they do and how technology fits in,' " she explains. Some girls have also been allowed to shadow tech professionals on the job or intern at tech companies.

Companies such as Microsoft, Dell and SAIC have helped by donating money, computers, printers, digital cameras and other equipment.

For IT professionals who want to do more, one option is to take a week off from work and volunteer to help at a Technology Goddesses summer camp or, better yet, start a camp of your own, suggests Carmody.

Aside from a lot of fun, the benefits of volunteering include building your company's reputation as an IT employer of choice and getting a glimpse of tomorrow's high-tech workforce, says Susie Schmitt, an Internet manager at SAIC who has served on career panels at Technology Goddesses camps.

Young girls need to see and talk to women and men who work in and with IT so they can develop a realistic view of what a career in technology might hold, says Joy Hughes, CIO at George Mason University and an early volunteer.

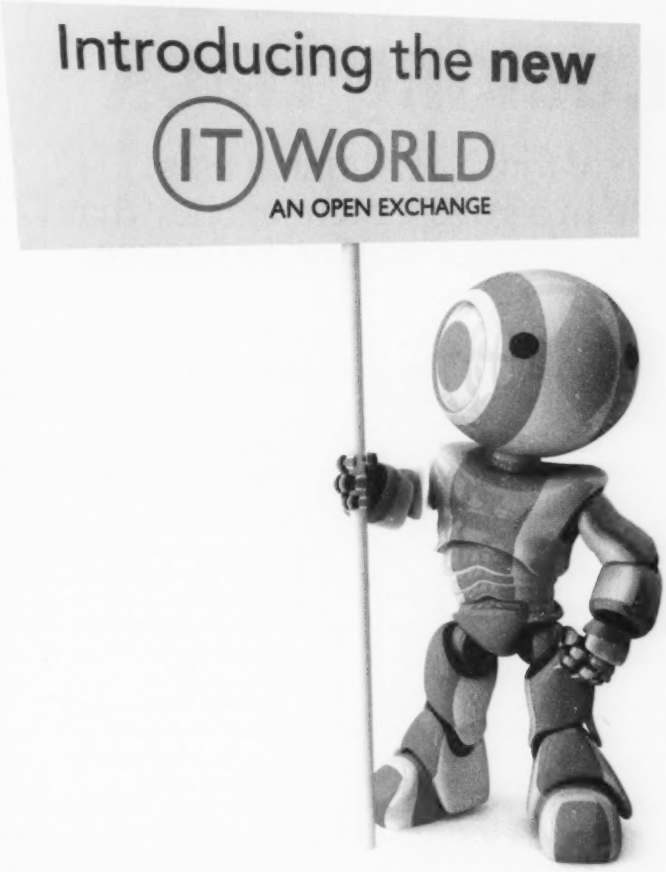
"We did a lot of research on how to get girls more involved [in technology]. What we found out is that girls don't understand IT jobs," Hughes says. "When we talked to girls about a career in technology, they'd say, 'Who wants to be a geek and sit at a computer all day and be by yourself?' "

By volunteering to talk about your IT job, career and work life at a Technology Goddesses program, Carmody believes you can help dispel that negative stereotype and perhaps nurture a nascent IT career.

She even has a firsthand success story to tell. "My daughter, Katie, used to want to be a veterinarian. Now she wants to study engineering," Carmody says. "She wants to be a CIO."

– JULIA KING

IT professionals unite!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■ SECURITY MANAGER'S JOURNAL | C.J. KELLY

Switching Gears, And Looking Back

In the course of four years, **much was accomplished** in a government agency that was **a security disaster waiting to happen.**

Trouble Ticket

AT ISSUE: A job offer proves impossible to resist.

ACTION PLAN: Move on, and hope your influence remains behind.

I FINALLY DECIDED to leave public service and go back to the private sector. The decision wasn't easy, because I hate to leave the team. My boss is adjusting, but he's not happy. I am very excited, though, to be going back to what I enjoy — security consulting.

In almost four years in public service, I was able to make significant changes to the agency's computing infrastructure. Building an information security program from the ground up is always satisfying. Even under frustrating circumstances, we made monumental headway toward a more secure environment.

One of the first things I did was an information security assessment to get the lay of the land. I found servers that hadn't been patched in months and had hundreds of open ports, network switches that allowed Telnet connections with no password, and PCs that weren't patched and weren't running antivirus software. I also found public Web sites containing Access databases full of confidential health information, unfinished policy documents, an unstable network (is it any wonder?), no firewalls, no intrusion detection, no network monitoring and basically no plan for improvement.

I remember early on witnessing one of the sysadmins reboot the main switch whenever the network seemed to slow down. When a server failed, it was days before the system was rebuilt and back online. Backing up data was hit-or-miss. There was no plan for disaster recovery, and tapes were reused and stored on-site.

With all this staring me in the face, personnel issues were even more pressing. People needed training, mentoring, direction. But, as I was finding out, seniority is an entrenched concept in government staffs. It's all about your grade level, not your skill set. How can time on the job trump experience, skills and execution?

■ I made it clear that I would judge performance based on teamwork and execution.

Even though I wanted to get to work on the technical problems, I had to fix the people problems first. That meant changing the way people thought about themselves and their jobs. If you tell a group of state employees that their seniority isn't as important as teamwork, chances are you're going to be met by a lot of blank stares.

But I made it clear that I would judge performance based on teamwork and execution. That was the only power I had over my employees. I didn't threaten. I encouraged cooperation and set clear expectations. There were no secrets, no politics and no games.

Fairly quickly, I lost a couple of employees. But I doubt that I would have been able to get through to them, and I was able to hire replacements who understood where I was coming from.

Fortunately, my boss had hired me knowing that I would want to change the atmosphere as well as the technology. And he had budgeted for the changes and just needed someone who understood what needed to be done and would execute. I was very lucky to have him on my side.

In the end, my job in government was all about vision and communicating that vision. If you can imagine a secured environment and understand what needs to be done, you can do anything. Communicating that vision is an art, and it's where many managers fail. I created numerous presentations and network diagrams. I wrote plan documents and road maps, and communicated the vision to management, never forgetting that the team that was going to achieve that vision was the most important part of the mix.

One of my employees said to me just the other day, "We don't want to lose the vision. How can we make sure the next manager keeps us going in the right direction?" Those words are nearly reward enough for the past four years. But it's going to be up to the team to self-manage and keep its goals in sight. ■

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JOIN IN

To join in the discussions about security, go to **computerworld.com/blogs/security**

This week's journal is written by a real security manager, **"C.J. Kelly,"** *whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com.*

Microsoft

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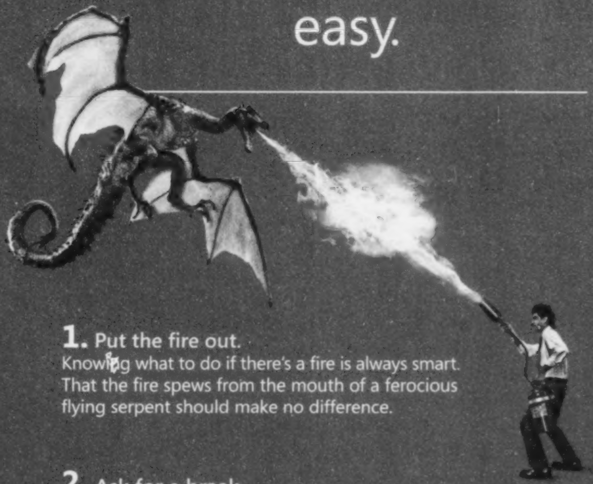
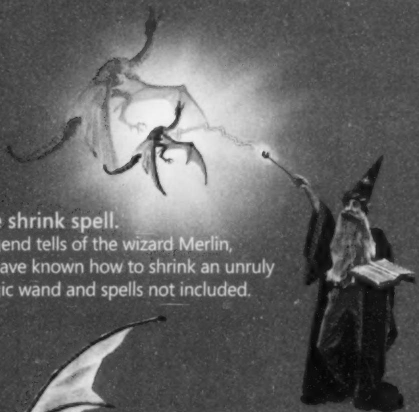


1. Put the fire out.
Knowing what to do if there's a fire is always smart. That the fire spews from the mouth of a ferocious flying serpent should make no difference.

2. Ask for a break.
Searing heat, slashing claws, and the beating wings of hell will tire anyone. Say you need a break, then just walk quickly out the back.



3. Use the shrink spell.
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Storm Central

A Web-based tool combining 3-D satellite imagery and real-time weather data helps crisis managers at energy company BP make quicker, better decisions. **By Mary K. Pratt**

AT A GLANCE

- **BP PLC is a global energy company with nearly 100,000 employees, plus business activities and customers in more than 100 countries across six continents. Sales and other operating revenue for 2007 topped $284 billion.**
- **Project champions are Brian Autio, BP's geospatial team lead for the Gulf of Mexico, and Steve Fortune, BP's director of information management, along with projects program manager Susan Warburton and chief architect John Maio, both of whom are contractors from Comsys IT Partners Inc., working for BP.**
- **About 100 people work on Fortune's Gulf of Mexico information management team.**
- **Team members didn't calculate an ROI but say the company's Crisis Management System allows executives and crisis managers to make quicker, more accurate decisions that can save valuable assets and even lives.**

BRIAN AUTIO has to predict Mother Nature so his employer, energy giant BP PLC, knows how to react.

For years, Autio, BP's geospatial team lead for the Gulf of Mexico, used a mishmash of tools — from satellite images to paper wall maps dotted with pushpins — to accomplish his work.

His system got the job done, but it was cumbersome. There was clearly room for improvement. "It's just a very intense process, and it lends itself perfectly to technology," Autio says.

He and his colleagues now have a more advanced way to help them do their jobs: BP's Crisis Management System. It uses 3-D satellite imagery, real-time weather data, and a visual representation of the company's workers, their homes and corporate assets to deliver a truly visual assessment of what's happening where. The Web-based tool enables the Houston-based crisis team, top management in the U.K. and executives around the world to view the same information in real time, helping them improve their decision-making capabilities.

WEATHER WATCH

"Having these more advanced kind of tools is bringing a lot of value to storm management," says Bradley Williams, an energy and utilities analyst at Gartner Inc. "It's basically being able to assess the situation and respond much quicker, because you're able to pull all that information together, assess the damage and prioritize response."

BP had been moving toward the development of its Crisis Management System for several years. The company already had high-tech tools like satellite feeds and mapping systems to help track and manage events.

However, the pieces didn't always work together. Autio says he would spend three or four hours before a planning meeting manually pulling data from up to 20 databases and Web-based sources. But BP officials didn't have a lot of time when a disaster like a hurricane was barreling down on the company's workers and assets.

"There was a lot of pressure to get something done quickly, and it had to be right," Autio says.

There's a lot at stake. BP has about 2,000 people on platforms in the Gulf, and it supplies millions of barrels of oils and gas to the U.S. every day. When a hurricane comes through, the company has to decide who and what needs to be moved in the Gulf and in vulner-

Getting the Job Done – Fast

Projects program manager Susan Warburton and chief architect John Maio delivered BP's Crisis Management System in less than three months using the rapid deployment methodology.

Warburton and Maio took six weeks to develop a prototype of the tool that users could then try out and provide feedback on. It's a methodology the pair generally use on all projects.

"Because we're doing things fast, we find ourselves going back and filling in some gaps," Maio says. "But from a positive side, we get things up very quickly and at a low cost."

Warburton and Maio say that while developing a prototype was a big part of their strategy, they also drew on their relationships with business partners to quickly build a tool that really works.

"We live and breathe with the business. We'd sit in on the incident command posts and these scenarios to see how they handle a hurricane coming in, so we quickly understand what the business needs from a technology perspective," Warburton says.

Maio notes that he and Warburton are good at "stepping back and saying, 'What do you really want?' "

– MARY K. PRATT

able coastal areas.

These concerns had pushed BP to make incremental improvements in its storm management processes, Autio says. Then hurricanes Katrina and Rita hit in 2005. BP scrambled to help its affected workers, bringing them water, generators and other supplies while also trying to assess the damage to its assets.

But the company needed a quicker, more automated way to mobilize. "Katrina and Rita pushed us to leverage the technology faster," says projects program manager Susan Warburton.

BP recognized that it had to move from a process that used printouts of maps based on information that could be hours old to a system that pulls in, presents and shares data in real time, says chief architect John Maio.

"The technology moved to a place where you could actually do this," says BP information management director Steve Fortune.

Maio and Warburton say they opted for Microsoft's Virtual Earth because BP uses the vendor's technology for its portal environment. They decided to make it Web-based so people could easily monitor it from anywhere in the world.

As with any new technology, users had to adjust to the tool. But users knew how to drill down into data to find what they needed and could still print out maps and information like they used to, which made the transition easier, Warburton says.

BP also needed to tweak some of the information used in the Crisis Management System, Autio says. For instance, no Web feeds of hurricane information were available, so BP went to an existing vendor, Impact-Weather Inc. in Houston, to develop feeds that include hurricane paths, probability zones and additional infrared satellite images.

The system can be used to monitor earthquakes and fuel spills in the ocean, and their effect on BP platforms. Autio says it can also be used to manage all sorts of crises. In fact, BP used the system during last winter's Midwest ice storms and last year's California wildfires to determine which BP employees needed assistance and what kind of help was required.

Fortune says the technology can even be used for supply chain management. The ability to visualize assets can, for example, help the company direct vessel traffic in the Gulf, he says.

Meanwhile, work on the Crisis Management System continues. The team is implementing a tool that will allow workers to call in via phone or the Internet and report where they are, if they and their homes are OK, and whether they need any help, Warburton says.

Maio says the next step is to add text messaging and mobile interfaces, letting workers access real-time data from anywhere.

Warburton says BP offices around the world are planning to implement the Crisis Management System. "We're getting it to the point where it will go worldwide," she says. Maio notes that more than 1,000 users have already worked with the tool. ■

Pratt *is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

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■ OPINION

Robert L. Mitchell

Reconsidering Vista

OK, IT'S NOT PERFECT. But Windows Vista on a new PC is perfectly serviceable for many users. In some ways, in fact, Vista is a better operating system than Windows XP. Unfortunately, XP's heir apparent is also the most derided and discounted Microsoft operating system since Windows Me.

With all of the negative press about slower-than-expected adoption rates and the push for vendors to continue offering an XP option on new PCs, users may be left with the impression that anything is better than opting for Vista — including paying a premium to downgrade to Windows XP when buying a new PC.

That's a bit extreme. Granted, the operating system has its share of glitches and issues. Higher-end versions are pricey, and Vista requires state-of-the-art hardware for optimum performance. But more than a year after its release, Vista with SP1 is reasonably stable and probably more secure than XP. It's also technically more advanced than its seven-year-old predecessor.

As developers bring products to market that exploit unique Vista capabilities, such as the Presentation Graphics subsystem and support for Sidebar gadgets, users will want them. But those who buy XP with that new PC won't have access to those applications because they will be working through an operating system designed in the late '90s to run on millennium-era hardware. What's more, general support for that "new" XP operating system will end next April, even though many consumers will keep those machines for five years.

If users buying new PCs are going to stick with Windows, they should get machines with Vista preloaded. Sure, the incessant barking of security warnings is annoying, but those can be muzzled. Windows is the platform on which users run the applications that do the real work. Those applications will increasingly exploit and rely on Vista's capabilities.

■ As developers bring products to market that exploit unique Vista capabilities, users will want them.

In a market that watches shipments as if they were movie box-office grosses, Vista has fallen short of very public expectations. But although Vista hasn't been a blockbuster on par with Windows 95, general penetration rates for the operating system are following the same slow, steady trajectory as those for Windows XP, according to a June report by Bernstein Research.

For business, the Vista adoption calculation has many more variables. And there's no need to rush. Enterprises can continue to install their own XP system images onto new hardware, and the security updates that businesses need will be available until 2014. By then, Vista's successor should be established.

But there is also something to be said for staying current with your users. Vista is shipping on most new Windows PCs in the retail channel — Microsoft claims to have shipped 140 million copies as of March 2008 — and it's a sure bet that most of those licenses aren't being downgraded to XP. That means users will increasingly be running Vista at home.

At least one wavering CIO sees this as a political issue. He worries that if users accept Vista at home and businesses wait for Windows 7, IT may look lethargic in its efforts to deploy the latest technology to meet business needs. By the time Windows 7 is ready for enterprise use, XP will be at least 10 years old. At that point, being on the trailing edge with XP could hurt IT's credibility and make kicking off more-ambitious projects difficult, he says.

In the end, the Vista decision involves striking a delicate balance between political, technical and business issues. Wait or migrate? Both choices involve some risks. ■

Robert L. Mitchell *is a* Computerworld *national correspondent. Contact him at robert_mitchell@computerworld.com.*

Career Watch

Should I Stay or Should I Go?

Men are much more likely than women to cite compensation as a top reason for staying in a job. For women, relationships predominate.

What factors most influence your decision to stay in a job?	WOMEN	MEN
Relationships with co-workers	28%	22%
Relationship with manager	27%	22%
Desirable working hours	26%	18%
Attractive benefits	22%	18%
Attractive compensation	16%	27%

SOURCE: SALARY.COM E-MAIL QUESTIONNAIRE COMPLETED BY 7,101 EMPLOYEES, MARCH 2008

ISTOCKPHOTO

PERFORMANCE-BASED TESTING

The Real World: **Redmond**

Microsoft is expanding its use of performance-based testing (PBT) in its certification exams. With PBT, exam takers are presented with real-world problems and must apply the concepts and technologies they are being tested on to reach a solution. The method is seen as a way of enhancing the value of a certification, because certified IT workers will have demonstrated that they know how to use the technology in question, as opposed to being able to memorize jargon or even buy pirated test answers. Microsoft currently uses PBT in five of its exams and expects to add it to a sixth this summer. It plans to introduce PBT to even more of its exams over the next year and a half.

40%

The jump in job postings over the past six months that call for experience in VMware products, recorded by Dice.com and reported in May 2008.

Q&A

Jack Cullen

The **president** of IT **staffing** provider Modis talks about **trends** affecting **workforce availability.**

What IT skills are most needed right now? Is demand up, down or holding steady? The IT skills we see most in demand at this point in time include .Net, Java, J2EE, SAP and Oracle. Positions that we have experienced strong demand for include business analysts, project managers, help desk/call center support staffers and quality assurance specialists. Overall, demand is down slightly from where it was at this time last year.

What are some of the difficulties in meeting demand? The biggest challenge is the slowness of the hiring manager. Despite the fact that the supply pool is still less than optimal, managers are slow to hire because they are searching for the perfect match. This has a tendency to backfire on the project, because by the time the hiring manager finally makes that decision, the candidate being considered has moved on and taken another position.

Do you notice geographical differences? There are slight geographical differences, but for the most part, the skill sets and positions I listed are in demand across all of North America.

Is increased connectivity erasing supply-and-demand disparities, since workers can often provide their services without moving to a new area? Despite the fact that mobility has improved dramatically, most hiring managers want the IT worker to be on-site for a majority of the project. Over 85% of the positions we staff seek candidates that are willing to work at the location of the particular project.

What should companies do as they look to recruit talented IT professionals? Companies need to see the complete picture that an individual brings to a project. The highest level of technical expertise does not always assure them that they are getting the person they need. Making sure a person can work in a pressure environment or can function properly on a team are critical skills that aren't always apparent during the interview process. You should avoid making a decision on the interview alone. The firm that represents the candidate should have a detailed log on the individual that includes at least three references of a similar project, skill assessment and ranking, background check, and an accurate profile of the candidate's personality.

Anything else you would like to add? Most managers do not enjoy or have time for the hiring process. However, making a wrong hire can have a severe impact on the outcome of the project and can cost the hiring manager their position within their company. Leverage the consulting firm or placement agency that you are working with so this becomes a pain-free process and you can focus more time on delivering the project.

– JAMIE ECKLE

PAGE COMPILED BY JAMIE ECKLE.

Director, Computational Biology and Bioinformatics Program

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The National Institute on Drug Abuse (NIDA) at the National Institutes of Health (NIH) is seeking a senior-level scientist with expertise in bioinformatics and information technology who will bring significant experience to operate in an intellectually challenging Federal biomedical research institution engaged in a national research program to understand the biomedical and social causes and consequences of drug addiction throughout the world.

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The successful candidate will possess an M.D. and/or Ph.D. degree and have scientific credentials and research-oriented experience related to biomedical informatics, computational biology, and/or information technology. In addition, the candidate will have sufficient education and experience to ensure success in managing a professional and technical staff engaged in providing highly technical and complex informatics support to inhouse and NIDA-funded university-based biomedical and clinical programs. Extensive experience in information technology management, encompassing strategic planning, technical project management and process transformation, is highly desirable. The candidate also must possess strong leadership qualities and exceptional interpersonal skills.

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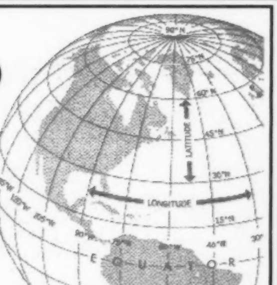

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Methodology:

Working from a list of 55 finalists–created by a team of IT recruiters, CIO's and academic advisors–Computerworld editors selected 10 IT graduate-level programs because of their highly innovative curricula and relevance to today's IT/business world. In addition, a companion survey of alumni will determine their level of satisfaction with the programs.

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SharkTank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

Now, Is That Nice?

Pilot fish does routine maintenance at this customer's data center each weekend – and it's unpleasant. "The security guard seemed to despise the computer company I work for," fish says. "Every weekend I was forced to listen to his vitriol, and company policy forbade me from responding." But one morning, a very pretty young woman comes into the computer room, and it all becomes clear: Turns out she and the guard are taking a programming class, and the guard is positively beaming that she needs his help. And the course instructor is one of fish's co-workers, whom the young woman idolizes. Reports fish, "Seeing this, I couldn't help but ask, 'Is Fred doing OK? He's my co-worker, and last week he was pretty bummed because his girlfriend broke up with him.' The young woman looked at me as if I had just given her the best Christmas present in the world, and the guard looked at me like he wanted me to die on the spot. But man, it was *so* worth it!"

Yeah, Right

Programmer at a remote site is testing changes to a mainframe application, but they keep causing the test system to crash. So he calls this systems programmer pilot fish, who instructs him to set up the problem transaction and then call fish back so he can start a trace. But by the time programmer calls again, fish is hip-deep in a high-priority problem. Hang tight, he tells programmer. A minute later, fish receives an automated alert reporting that programmer's app has crashed again. Next day, programmer calls and asks fish, "Did you see anything in the trace?" No, there was no trace, fish says. Why didn't you wait until I could get set up? Programmer: "It was an accident." An accident? "Yes, I had a manual on top of my monitor, and it fell and hit the Enter key." Says fish, "I shook my head and replied incredulously, 'That's amazing!' and hung up. He called right back. I told him, 'Sorry, a manual dropped on my phone switch hook and disconnected us.' "

Bet They Do Now

Pilot fish in charge of security cameras attends a plantwide meeting, where he hears the HR director claim to have video showing employees violating the smoke-free workplace rules. "People are apparently lighting up as soon as they get into their cars," says fish. "The rule states that they can't light up until they are outside the gate. When afterward I point out that the system is not capable of that kind of imaging, especially when shot from a fixed-focus, wide-angle rooftop camera, the HR director says, 'I only said that. They don't know that our cameras can't do it.' Want to bet?"

■ *Bet on Sharky. Send me your true tale of IT life at sharky@computerworld.com. I'll send you a stylish Shark shirt if I use it.*

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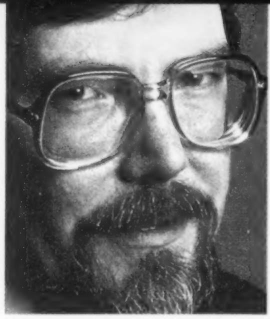

SINGLE POINT OF FAILURE. That's the right term for talking about the mess in San Francisco, where last week the city government finally regained control of its backbone network. Terry Childs, the net admin jailed for locking down administrative access, turned over the passwords during a secret visit from Mayor Gavin Newsom.

Childs' lawyer said Childs hadn't divulged the passwords sooner because he believed "none of the persons who requested the password information . . . were qualified to have it," according to court filings.

We're starting to get solid information on the case, now that the impasse has broken (see story, page 16). But until Childs revealed the passwords, all we knew for sure was that Childs was in jail and that the network was still working but couldn't be managed.

Beyond that, it's been *Rashomon* in IT. Depending on who's telling the story, Childs is a brilliant network engineer who did nothing wrong. Or possibly a cyberterrorist who held the government hostage. Or maybe just an overstressed, burned-out guy who's the victim of a misunderstanding.

San Francisco's IT management? That's a bunch of tech-clueless bureaucrats. Or maybe it's a gang of goons who are out to get Childs no matter the cost. Or perhaps it's a group of conscientious public servants whose only concern was regaining control of a crucial network that might have been full of booby traps.

Childs' erstwhile coworkers? They're halfwits who couldn't manage that backbone with both hands and a map. Or innocent victims of a network guru with a God complex. Or enablers who helped create the mess by their silence.

From news reports to blog comments, the reactions have been stunning in their vehemence and variety. And there's not one yawning gulf here, but many: between techies and nontechnical managers, between gurus and regular IT grunts, between designers and administrators, between security wonks and operations guys, between practicing network experts and best-practices pundits.

■ A single point of failure is a reliability problem. That's something techies and managers, gurus and grunts can all understand.

It seems like suddenly we can agree on nothing. But maybe we can all recognize this:

Terry Childs was a single point of failure.

Never mind whether he's saint or sinner, villain or victim. Set that aside for now.

Focus on this: Childs was the only guy who understood that fiber backbone network. He designed it. He ran it. He maintained it. He controlled it. And nobody could replace him.

In other words, a single point of failure.

Forget whether that situation was because of cheapness, arrogance, incompetence or paranoia. The result was the same: If something happened to Childs — a stroke, a car accident, a breakdown, a job-related "misunderstanding" — that single point would fail.

And it did.

Look, this San Francisco fiasco has thrown a spotlight on every ugly division in the IT profession. We see it as a matter of control or expertise or responsibility or stupidity or freedom. We see it as *us* vs. *them*, and that reaches into our deepest fears and anger.

So remember this: A single point of failure is a reliability problem. That's something techies and managers, gurus and grunts can understand.

We all have at least one single point of failure lurking somewhere in our IT operations. Waiting until it generates a crisis that spirals into finger-pointing, frustration and fear is not the way to go.

There's really only one good way to deal with a single point of failure: Find it and cure it *before* it fails. ■

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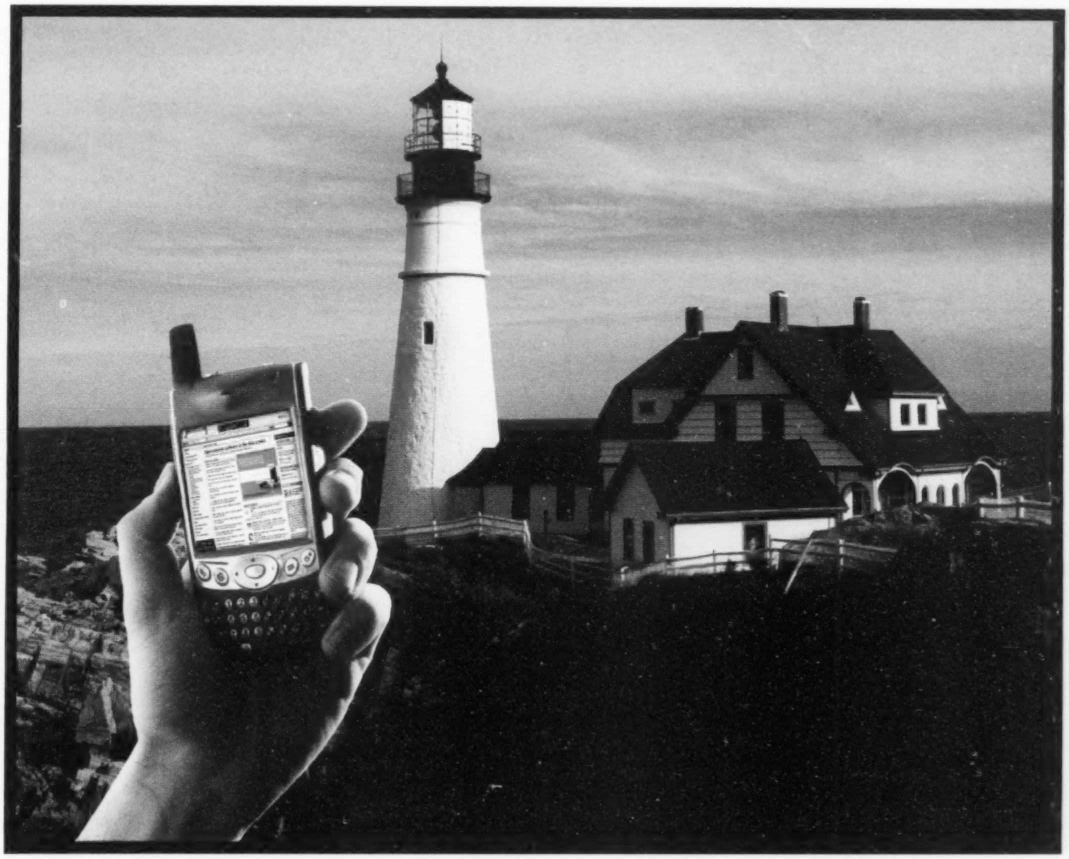

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